

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

<b>C Number:</b>	C61369C
<b>Lock Date:</b>	08/06/1993
<b>Cage Range:</b>	All
<b>Date Range:</b>	All
<b>Reasons For Removal:</b>	All
<b>Removal Date Range:</b>	All
<b>Treatment Groups:</b>	All
<b>Study Gender:</b>	Both
<b>PWG Approval Date</b>	10/03/1995

Experiment Number: 05158-03

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Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 1

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27294

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Mild
* Adrenal Medulla		Hyperplasia	Minimal
		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Moderate
* Kidney		Nephropathy	Marked
	[ Nephropathy TGLS = 4-5+12 ]		
* Liver		Angiectasis	Minimal
		Clear Cell Focus	
		Degeneration	Cystic, Moderate
		Degeneration	Fatty, Minimal
	Bile Duct	Hyperplasia	Minimal
	[ Degeneration TGLS = 3-4 ]		
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLS = 5-14 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Parathyroid Gland		Hyperplasia	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 2-8 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
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**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
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**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 1	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 735 <b>HISTO:</b> 27294
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Preputial Gland [ Adenoma TGLS = 1-13 ]		Adenoma	
* Stom Forestom Note: "Diverticulum" described at trim was not apparent microscopically.			
* Testes [ Adenoma TGLS = 6-7 ]	Bilateral, Interstit Cell	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Minimal
	Follicular Cel	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

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Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 2

TRT#: 1

SEX: Male

DAY ON TEST: 546

DOSE: CONTROL

DISP: Natural Death

HISTO: 27295

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                           |                             |                            |
|--------------------------|---------------------------|-----------------------------|----------------------------|
| * Bone                   | * Epididymis              | * Esophagus                 | * Intestine Large, Cecum   |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Jejunum |
| * Islets, Pancreatic     | * Larynx                  | * Mammary Gland             | * Preputial Gland          |
| * Prostate               | * Salivary Glands         | * Seminal Vesicle           | * Stomach, Forestomach     |
| * Stomach, Glandular     | * Thyroid Gland           | * Trachea                   | * Urinary Bladder          |

MISSING

- \* Parathyroid Gland

OBSERVATIONS

- |   |  |              |
|---|--|--------------|
| * Adrenal Cortex<br>[ Leukemia Mononuclear TGLS = 5-6+12 ]  | Leukemia Mononuclear                               |              |
| * Adrenal Medulla<br>[ Leukemia Mononuclear TGLS = 5-6+12 ]   | Hyperplasia<br>Leukemia Mononuclear                | Mild         |
| * Bone Marrow   | Leukemia Mononuclear                               |              |
| * Brain<br>[ Leukemia Mononuclear TGLS = 1-1 ]  | Leukemia Mononuclear                               |              |
| Eye<br>[ Cataract TGLS = 6-13 ]   | Cataract   | Minimal      |
| * Heart<br>Note: "Mass" noted at trim was most likely post mortem clot in right atrium; no corresponding lesion was found in the right ventricle. | Cardiomyopathy                                     | Mild         |
| * Intestine Small, Ileum<br>[ Leukemia Mononuclear TGLS = 5-6+12 ]  | Leukemia Mononuclear                               |              |
| * Kidney  | Leukemia Mononuclear                               |              |
| * Liver<br>Bile Duct  | Nephropathy<br>Hyperplasia<br>Leukemia Mononuclear | Mild<br>Mild |
| * Lung  | Leukemia Mononuclear                               |              |
| * Lymph Node, Bronchial<br>[ Leukemia Mononuclear TGLS = 5-6+12 ]   | Leukemia Mononuclear                               |              |
| * Lymph Node, Mandibular  | Leukemia Mononuclear                               |              |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

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<b>ANIMAL ID:</b> 2	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 546
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Natural Death	<b>HISTO:</b> 27295

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ORGAN AND ACCOUNTABLE SITE STATUS

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[ Leukemia Mononuclear TGLS = 5-6+12 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-6+12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
		Thrombosis	Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
[ Adenoma TGLS = 2-8 ]			
[ Leukemia Mononuclear TGLS = 2-8 ]			
* Skin		Inflammation	Chronic Active, Moderate
[ Inflammation TGLS = 8-14 ]			
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
[ Fibrosis TGLS = 4-11 ]			
[ Leukemia Mononuclear TGLS = 3-11 ]			
* Testes	Interstit Cell	Hyperplasia	Minimal
* Thymus		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

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Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

<b>ANIMAL ID:</b> 3	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 553 <b>HISTO:</b> 27296
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ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

* Mammary Gland	* Parathyroid Gland
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
		Leukemia Mononuclear	
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
	[ Leukemia Mononuclear TGLS = 6-4 ]		
* Lung	Alveolar Epith	Hyperplasia	Mild
		Leukemia Mononuclear	
	[ Hyperplasia TGLS = 9-3+12 ]		
	[ Leukemia Mononuclear TGLS = 1-3 ]		
Lymph Node	Pancreatic	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-12 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

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**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 3	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 553 <b>HISTO:</b> 27296
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Nose	Olfactory Epi	Degeneration Thrombosis	Hyaline, Minimal Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland [ Adenoma TGLS = 2-8 ]	Pars Distalis	Adenoma	
* Preputial Gland [ Carcinoma TGLS = 3-13+14 ]		Carcinoma	
* Prostate		Inflammation	Chronic Active, Moderate
* Spleen [ Leukemia Mononuclear TGLS = 4-11 ]		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
* Thymus		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear
CONTRIBUTORY CAUSE OF DEATH	- Preputial Gland Carcinoma

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\* PROTOCOL REQUIRED TISSUE

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Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

<b>ANIMAL ID:</b> 4	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 735 <b>HISTO:</b> 27297
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ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
		Vacuolization Cytoplasmic	Mild
* Adrenal Medulla		Hyperplasia	Mild
		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Marked
[ Nephropathy TGLS = 8-5 ]			
* Liver		Basophilic Focus	
		Degeneration	Cystic, Mild
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Basophilic Focus TGLS = 7-4 ]			
[ Degeneration TGLS = 7-4 ]			
[ Leukemia Mononuclear TGLS = 8-5 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-4 ]			
Lymph Node	Renal	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-13 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

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<b>ANIMAL ID:</b> 4	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27297

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<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
* Pituitary Gland [ Adenoma TGLS = 2-8 ]	Respirat Epith Pars Distalis	Degeneration Adenoma	Hyaline, Minimal
* Salivary Glands		Atrophy	Mild
* Spleen [ Fibrosis TGLS = 6-11 ] [ Leukemia Mononuclear TGLS = 5-11 ]		Fibrosis Leukemia Mononuclear	Mild
* Testes [ Adenoma TGLS = 4-12 ] [ Atrophy TGLS = 3-7 ]	Interstit Cell	Adenoma Atrophy	Moderate
* Thyroid Gland [ Carcinoma TGLS = 1-2 ]	C Cell C Cell	Carcinoma Hyperplasia	Mild

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<b>PRIMARY CAUSE OF DEATH</b>	-
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 5

TRT#: 1

SEX: Male

DAY ON TEST: 674

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27298

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Thyroid Gland	* Trachea	* Urinary Bladder

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Minimal
		Leukemia Mononuclear	
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Moderate
		Leukemia Mononuclear	
	Atrium	Thrombosis	Moderate
	[ Leukemia Mononuclear TGLS = 1-4 ]		
	[ Thrombosis TGLS = 1-4 ]		
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
	[ Nephropathy TGLS = 8-5 ]		
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
	[ Leukemia Mononuclear TGLS = 9-4 ]		
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
	Note: "Enlarged renal lymph node" noted at necropsy could not be found in wet tissue; enlargement was most likely due to leukemia.		
	[ Leukemia Mononuclear TGLS = 6-11 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

<b>ANIMAL ID:</b> 5	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 674 <b>HISTO:</b> 27298
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ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-8 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
		Thrombosis	Moderate
[ Leukemia Mononuclear TGLS = 5-7 ]			
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Preputial GI			
Note: "Mass, 1cm diameter, pale" was dilated duct filled with normal secretion.			
* Prostate		Hyperplasia	Minimal
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
		Necrosis	Mild
[ Fibrosis TGLS = 7-4 ]			
* Stomach, Forestomach		Necrosis	Moderate
* Stomach, Glandular		Necrosis	Moderate
[ Necrosis TGLS = 11-8 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 5-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-7 ]			

PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear
CONTRIBUTORY CAUSE OF DEATH	- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

<b>ANIMAL ID:</b> 6	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Natural Death	<b>DAY ON TEST:</b> 549 <b>HISTO:</b> 27299
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ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Trachea	Ureter	

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear Necrosis	Mild
[ Leukemia Mononuclear TGLS = 5-14 ]			
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-8 ]			
* Brain		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-1 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Leukemia Mononuclear Nephropathy	Mild
* Liver		Basophilic Focus Leukemia Mononuclear Necrosis	Minimal
[ Basophilic Focus TGLS = 4-4 ]	Centrilobular		
[ Leukemia Mononuclear TGLS = 4-4 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-14 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-14 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

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Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

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<b>ANIMAL ID:</b> 6	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 549
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Natural Death	<b>HISTO:</b> 27299

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 8-12 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-14 ]			
* Nose	Olfactory Epi	Degeneration Leukemia Mononuclear	Hyaline, Minimal
[ Leukemia Mononuclear TGLS = 2-8 ]			
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-11 ]			
* Stomach, Forestomach		Necrosis	Moderate
[ Necrosis TGLS = 7-13 ]			
* Stomach, Glandular		Necrosis	Mild
[ Necrosis TGLS = 8-12 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
* Thymus		Leukemia Mononuclear	
* Thyroid Gland		Leukemia Mononuclear	
* Urinary Bladder		Hemorrhage	Mild
[ Hemorrhage TGLS = 2-8 ]			

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PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

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<b>ANIMAL ID:</b> 7	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 678 <b>HISTO:</b> 27300
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**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Larynx	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Trachea	* Urinary Bladder

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**MISSING**

\* Mammary Gland

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**OBSERVATIONS**

* Adrenal Cortex	Leukemia Mononuclear Vacuolization Cytoplasmic	Mild
[ Leukemia Mononuclear TGLS = 1-7 ]		
* Adrenal Medulla	Hyperplasia Leukemia Mononuclear Pheochromocytoma Benign Leukemia Mononuclear	Moderate
* Bone Marrow		
[ Leukemia Mononuclear TGLS = 8-12 ]		
* Brain	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-12 ]		
* Heart	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-12 ]		
* Intestine Small, Duodenum	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]		
* Intestine Small, Ileum	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]		
* Intestine Small, Jejunum	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]		
* Islets, Pancreatic	Carcinoma	
[ Carcinoma TGLS = 8-12 ]		
* Kidney	Leukemia Mononuclear Nephropathy	Moderate
[ Leukemia Mononuclear TGLS = 8-12 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 7	TRT#: 1 DOSE: CONTROL	SEX: Male DISP: Moribund Sacrifice	DAY ON TEST: 678 HISTO: 27300
<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
* Liver	Bile Duct	Hyperplasia Leukemia Mononuclear	Moderate
	Centrilobular	Necrosis	Minimal
[ Leukemia Mononuclear TGLS = 5-4 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-12 ]			
* Nose	Olfactory Epi	Degeneration Leukemia Mononuclear	Hyaline, Minimal
* Pancreas		Atrophy Leukemia Mononuclear	Minimal
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
[ Adenoma TGLS = 2-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-11 ]			
* Stomach, Glandular		Leukemia Mononuclear Necrosis	Mild
* Testes	Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

<b>ANIMAL ID:</b> 8	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27301

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Esophagus	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Stomach, Forestomach	* Trachea	* Urinary Bladder	

MISSING

\* Lymph Node, Bronchial

INSUFFICIENT TISSUE

\* Skin

OBSERVATIONS

* Adrenal Cortex	Hyperplasia	Mild
	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-15 ]		
* Adrenal Medulla	Hyperplasia	Mild
	Leukemia Mononuclear	
* Bone Marrow	Leukemia Mononuclear	
* Brain	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 16-20 ]		
* Epididymis	Mesothelioma Benign	
[ Mesothelioma Benign TGLS = 16-20 ]		
* Heart	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 16-20 ]		
* Intestine Large, Cecum	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-15 ]		
* Intestine Small, Ileum	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-15 ]		
* Kidney	Leukemia Mononuclear	
	Nephropathy	Moderate
[ Leukemia Mononuclear TGLS = 16-20 ]		
[ Nephropathy TGLS = 12-5 ]		
* Liver	Degeneration	Cystic, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

<b>ANIMAL ID:</b> 8	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 735 <b>HISTO:</b> 27301
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**ORGAN AND ACCOUNTABLE SITE STATUS**

	Bile Duct	Hyperplasia Leukemia Mononuclear	Moderate
	Centrilobular	Necrosis	Mild
	[ Degeneration TGLS = 11-4 ] [ Leukemia Mononuclear TGLS = 9,10-4 ]		
* Lung	[ Leukemia Mononuclear TGLS = 2-3+11 ]	Leukemia Mononuclear	
Lymph Node	Iliac Pancreatic Renal	Leukemia Mononuclear Leukemia Mononuclear Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 14-19 ] [ Leukemia Mononuclear TGLS = 13-18 ]		
* Lymph Node, Mandibular	[ Leukemia Mononuclear TGLS = 1-15 ]	Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric	[ Leukemia Mononuclear TGLS = 15-14 ]	Leukemia Mononuclear	
* Mammary Gland	[ Galactoceles TGLS = 5-16 ]	Galactocoele	Moderate
Mesentery	[ Leukemia Mononuclear TGLS = 6-17 ]	Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration Leukemia Mononuclear	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
* Seminal Vesicle		Leukemia Mononuclear	
* Spleen	[ Leukemia Mononuclear TGLS = 7,8-12+13 ]	Leukemia Mononuclear	
* Stomach, Glandular		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

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<b>ANIMAL ID:</b> 8	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27301

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 3,4,17-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3,4,17-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

<b>ANIMAL ID:</b> 9	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 688 <b>HISTO:</b> 27302
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ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Testes	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Mild
* Adrenal Medulla		Hyperplasia	Mild
		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 3-5 ]			
* Liver		Basophilic Focus	
		Degeneration	Cystic, Minimal
	Bile Duct	Hyperplasia	Minimal
Lymph Node	Renal	Hemorrhage	Minimal
[ Hemorrhage TGLS = 5-5 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 6-12 ]			
* Pancreas		Atrophy	Mild
		Hyperplasia	Moderate
* Parathyroid Gland		Hyperplasia	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Preputial Gland		Carcinoma	
[ Carcinoma TGLS = 2-11 ]			
* Spleen		Fibrosis	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 9	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 688 <b>HISTO:</b> 27302
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibrosis TGLS = 4-4 ]			
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Kidney Nephropathy		
CONTRIBUTORY CAUSE OF DEATH	- Preputial Gland Carcinoma		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 10

TRT#: 1

SEX: Male

DAY ON TEST: 586

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27303

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Medulla        | * Bone                     | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    |
| * Lymph Node, Mandibular | * Mammary Gland            | * Parathyroid Gland       | * Preputial Gland           |
| * Prostate               | * Salivary Glands          | * Seminal Vesicle         | * Skin                      |
| * Stomach, Forestomach   | * Stomach, Glandular       | * Trachea                 | * Urinary Bladder           |

MISSING

- \* Thymus

OBSERVATIONS

- |   |            |                      |             |
|---|------------|----------------------|-------------|
| * Adrenal Cortex                        |            | Leukemia Mononuclear |             |
| [ Leukemia Mononuclear TGLS = 2-3 ]     |            |                      |             |
| * Bone Marrow                           |            | Leukemia Mononuclear |             |
| * Brain                                 |            | Leukemia Mononuclear |             |
| [ Leukemia Mononuclear TGLS = 10,11-1 ] |            |                      |             |
| * Heart                                 |            | Cardiomyopathy       | Mild        |
|   |            | Leukemia Mononuclear |             |
|   | Atrium     | Thrombosis           | Mild        |
| * Kidney                                |            | Infarct              | Mild        |
|   |            | Leukemia Mononuclear |             |
|   |            | Nephropathy          | Moderate    |
| * Liver                                 |            | Degeneration         | Fatty, Mild |
|   | Bile Duct  | Hyperplasia          | Moderate    |
|   |            | Leukemia Mononuclear |             |
| [ Leukemia Mononuclear TGLS = 6-4 ]     |            |                      |             |
| * Lung                                  |            | Leukemia Mononuclear |             |
| Lymph Node                              | Pancreatic | Leukemia Mononuclear |             |
| [ Leukemia Mononuclear TGLS = 5-13 ]    |            |                      |             |
| * Lymph Node, Bronchial                 |            | Leukemia Mononuclear |             |
| [ Leukemia Mononuclear TGLS = 2-3 ]     |            |                      |             |
| * Lymph Node, Mediastinal               |            | Leukemia Mononuclear |             |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 10	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 586
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27303

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 1-2 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-12 ]			
* Nose	Olfactory Epi	Degeneration Inflammation	Hyaline, Mild Suppurative, Mild
* Pancreas		Leukemia Mononuclear Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
* Spleen		Leukemia Mononuclear Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-11 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3,12-7 ]			
* Thyroid Gland	C Cell	Adenoma	
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 11

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27304

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Parathyroid Gland
* Pituitary Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Minimal
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Mild
[ Eosinophilic Focus TGLS = 4-12 ]			
Mesentery	Fat	Necrosis	Moderate
[ Necrosis TGLS = 5-13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Hyperplasia	Mild
* Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
[ Fibrosis TGLS = 3-11 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1,2-7 ]			
* Thyroid Gland	C Cell	Carcinoma	
	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 11

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 735

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 27304

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 12

TRT#: 1

SEX: Male

DAY ON TEST: 609

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27305

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Pancreas	* Parathyroid Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Trachea	* Urinary Bladder

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Leukemia Mononuclear	
	Atrium	Thrombosis	Moderate
	[ Thrombosis TGLS = 5-4 ]		
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
	[ Leukemia Mononuclear TGLS = 5-4 ]		
* Liver		Degeneration	Cystic, Mild
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
	[ Leukemia Mononuclear TGLS = 1-4 ]		
* Lung		Leukemia Mononuclear	
		Thrombosis	Moderate
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-2 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 12

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 609

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 27305

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
		Thrombosis	Marked
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
* Preputial Gland		Inflammation	Chronic Active, Mild
[ Inflammation TGLS = 6-12 ]			
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-11 ]			
* Stomach, Forestomach		Leukemia Mononuclear	
* Stomach, Glandular		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 13

TRT#: 1

SEX: Male

DAY ON TEST: 568

DOSE: CONTROL

DISP: Natural Death

HISTO: 27306

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Parathyroid Gland	* Pituitary Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	

MISSING

\* Mammary Gland

AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Larynx
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver	Bile Duct	Hyperplasia	Moderate
	Centrilobular	Leukemia Mononuclear	
* Lung		Necrosis	Marked
Mesentery	Fat	Leukemia Mononuclear	
[ Necrosis TGLS = 1-12 ]		Necrosis	Mild
* Nose		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2,4-7 ]			
* Pancreas		Atrophy	Moderate
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-11 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2,4-7 ]			

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 13

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 568

**DOSE:** CONTROL

**DISP:** Natural Death

**HISTO:** 27306

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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CONTRIBUTORY CAUSE OF DEATH

- Liver Centrilobular Necrosis;Lung Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 14

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27307

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Mammary Gland	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
* Kidney	Renal Tubule	Hyperplasia	Mild
		Leukemia Mononuclear	
		Nephropathy	Marked
	[ Nephropathy TGLS = 7-5 ]		
* Liver		Hepatocellular Carcinoma	
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
	[ Hepatocellular Carcinoma TGLS = 5-11 ]		
	[ Leukemia Mononuclear TGLS = 7-5 ]		
* Lung		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-11 ]		
Lymph Node	Pancreatic	Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 14

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 735

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 27307

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 8-8 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
* Pancreas		Hyperplasia	Moderate
* Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
		Leukemia Mononuclear	
[ Hyperplasia TGLS = 1-8 ]			
* Skin		Keratoacanthoma	
[ Keratoacanthoma TGLS = 6-13 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-12 ]			
* Stomach, Forestomach		Necrosis	Marked
[ Necrosis TGLS = 8-8 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2,3-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 15

TRT#: 1

SEX: Male

DAY ON TEST: 665

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27308

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Brain                    | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Parathyroid Gland         |
| * Preputial Gland        | * Prostate                 | * Salivary Glands         | * Seminal Vesicle           |
| * Stomach, Glandular     | * Trachea                  | * Urinary Bladder         |                             |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                                     |               |                      |                  |
|-------------------------------------|---------------|----------------------|------------------|
| * Adrenal Cortex                    |               | Hyperplasia          | Moderate         |
| * Adrenal Medulla                   |               | Hyperplasia          | Mild             |
| * Bone Marrow                       |               | Leukemia Mononuclear |                  |
| [ Leukemia Mononuclear TGLS = 8-8 ] |               |                      |                  |
| * Heart                             |               | Cardiomyopathy       | Minimal          |
| * Kidney                            |               | Leukemia Mononuclear |                  |
|                                     |               | Nephropathy          | Moderate         |
| * Larynx                            | Epiglottis    | Hyperplasia          | Minimal          |
|                                     |               | Hyperplasia          | Mild             |
| * Liver                             | Bile Duct     | Hyperplasia          | Mild             |
|                                     |               | Leukemia Mononuclear |                  |
|                                     | Centrilobular | Necrosis             | Minimal          |
| [ Leukemia Mononuclear TGLS = 3-4 ] |               |                      |                  |
| * Lung                              |               | Leukemia Mononuclear |                  |
| [ Leukemia Mononuclear TGLS = 5-3 ] |               |                      |                  |
| * Lymph Node, Bronchial             |               | Leukemia Mononuclear |                  |
| * Lymph Node, Mandibular            |               | Leukemia Mononuclear |                  |
| * Lymph Node, Mediastinal           |               | Leukemia Mononuclear |                  |
| * Lymph Node, Mesenteric            |               | Leukemia Mononuclear |                  |
| * Nose                              | Olfactory Epi | Degeneration         | Hyaline, Minimal |
|                                     |               | Thrombosis           | Moderate         |
| * Pancreas                          |               | Atrophy              | Mild             |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 15

TRT#: 1

SEX: Male

DAY ON TEST: 665

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27308

**ORGAN AND ACCOUNTABLE SITE STATUS**

		Mixed Tumor Benign	
[ Mixed Tumor Benign TGLS = 5-3 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
		Leukemia Mononuclear	
* Skin	Subcut Tiss	Fibroma	
[ Fibroma TGLS = 4-11 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-12 ]			
* Stomach, Forestomach		Necrosis	Moderate
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 16

TRT#: 1

SEX: Male

DAY ON TEST: 520

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27309

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Trachea	* Urinary Bladder

MISSING

* Mammary Gland	* Thymus
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OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-1 ]			
* Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-1 ]			
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Degeneration	Fatty, Moderate
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Minimal
[ Leukemia Mononuclear TGLS = 3-4 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-12 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 16

TRT#: 1

SEX: Male

DAY ON TEST: 520

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27309

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi	Degeneration Inflammation Leukemia Mononuclear Thrombosis	Hyaline, Mild Suppurative, Moderate
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	Marked
[ Adenoma TGLS = 1-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-11 ]			
* Stomach, Forestomach		Leukemia Mononuclear Necrosis	Moderate
[ Necrosis TGLS = 5-12 ]			
* Stomach, Glandular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-12 ]			
* Testes		Atrophy	Mild
	Interstit Cell	Hyperplasia	Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 17

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27310

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Moderate
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 4-5 ]			
* Liver		Basophilic Focus	
		Degeneration	Cystic, Moderate
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Mixed Cell Focus	
[ Basophilic Focus TGLS = 4-5 ]			
[ Degeneration TGLS = 6-4 ]			
[ Eosinophilic Focus TGLS = 6-4 ]			
[ Mixed Cell Focus TGLS = 6-4 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 3-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
* Prostate		Adenoma	Multiple
* Spleen		Fibrosis	Moderate
[ Fibrosis TGLS = 5-4 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 17	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 735 <b>HISTO:</b> 27310
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes [ Adenoma TGLS = 1,2-11+7 ]	Bilateral, Interstit Cell	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 18

TRT#: 1

SEX: Male

DAY ON TEST: 487

DOSE: CONTROL

DISP: Natural Death

HISTO: 27311

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

\* Adrenal Medulla  
\* Epididymis  
\* Lung  
\* Lymph Node, Mesenteric  
\* Prostate  
\* Stomach, Forestomach  
\* Trachea

\* Bone  
\* Esophagus  
\* Lymph Node, Bronchial  
\* Mammary Gland  
\* Salivary Glands  
\* Stomach, Glandular  
\* Urinary Bladder

\* Bone Marrow  
\* Islets, Pancreatic  
\* Lymph Node, Mandibular  
\* Parathyroid Gland  
\* Seminal Vesicle  
\* Thymus

\* Brain  
\* Larynx  
\* Lymph Node, Mediastinal  
\* Preputial Gland  
\* Spleen  
\* Thyroid Gland

AUTO PRECLUDES DIAG.

\* Intestine Large, Cecum  
\* Intestine Small, Ileum

\* Intestine Large, Colon  
\* Intestine Small, Jejunum

\* Intestine Large, Rectum

\* Intestine Small, Duodenum

OBSERVATIONS

\* Adrenal Cortex  
\* Heart  
\* Kidney  
\* Liver  
\* Nose  
\* Pancreas  
\* Pituitary Gland  
\* Skin  
[ Inflammation TGLS = 1-11 ]  
\* Testes

Bile Duct  
Olfactory Epi  
Pars Distalis

Bilateral, Interstit Cell

Hyperplasia  
Cardiomyopathy  
Nephropathy  
Hyperplasia  
Degeneration  
Atrophy  
Adenoma  
Inflammation

Adenoma

Minimal  
Mild  
Mild  
Mild  
Hyaline, Minimal  
Moderate  
Chronic Active, Moderate

PRIMARY CAUSE OF DEATH

- UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 19

TRT#: 1

SEX: Male

DAY ON TEST: 617

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27312

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Lymph Node, Mandibular
* Mammary Gland	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thyroid Gland	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Moderate
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Angiectasis	Mild
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
	[ Angiectasis TGLS = 5-4 ]		
	[ Leukemia Mononuclear TGLS = 4-4 ]		
* Lung		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-4 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-4 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 19	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 617 <b>HISTO:</b> 27312
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 6-8 ]		
[ Leukemia Mononuclear TGLS = 5-4 ]		
* Seminal Vesicle		Leukemia Mononuclear
[ Leukemia Mononuclear TGLS = 6-8 ]		
* Spleen		Leukemia Mononuclear
[ Leukemia Mononuclear TGLS = 2-11 ]		
* Testes	Bilateral, Interstit Cell	Adenoma Mesothelioma Benign
[ Adenoma TGLS = 3-7 ]		
[ Mesothelioma Benign TGLS = 2-11 ]		
* Thymus		Leukemia Mononuclear
[ Leukemia Mononuclear TGLS = 3-7 ]		

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**PRIMARY CAUSE OF DEATH** - Testes Mesothelioma Benign

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 20

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27313

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Brain	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Mammary Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Thyroid Gland	* Trachea

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
Note: Adrenals were pale due to anemia secondary to chronic nephropathy and leukemia.			
* Adrenal Medulla		Hyperplasia	Mild
		Pheochromocytoma Benign	
Blood Vessel	Aorta	Mineralization	Mild
* Bone		Fibrous Osteodystrophy	Moderate
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-11 ]			
* Heart		Cardiomyopathy	Moderate
	Artery	Mineralization	Mild
* Kidney	Renal Tubule	Hyperplasia	Marked
		Leukemia Mononuclear	
		Nephropathy	Marked
[ Nephropathy TGLS = 8-5 ]			
* Liver		Basophilic Focus	
		Degeneration	Fatty, Moderate
		Degeneration	Cystic, Mild
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
[ Basophilic Focus TGLS = 10-4 ]			
[ Leukemia Mononuclear TGLS = 10-4 ]			
* Lung		Leukemia Mononuclear	
	Artery, Mediastinum	Mineralization	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 20

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27313

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Pancreatic	Mineralization	Mild
	Renal	Leukemia Mononuclear	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-14 ]			
[ Leukemia Mononuclear TGLS = 12-13 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
	Respirat Epith	Degeneration	Hyaline, Minimal
		Inflammation	Suppurative, Mild
		Leukemia Mononuclear	
	Respirat Epith	Metaplasia	Squamous, Minimal
[ Leukemia Mononuclear TGLS = 5-7 ]			
* Pancreas		Atrophy	Mild
		Leukemia Mononuclear	
* Parathyroid Gland		Hyperplasia	Marked
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
[ Adenoma TGLS = 3-8 ]			
* Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
[ Fibrosis TGLS = 7-12 ]			
[ Leukemia Mononuclear TGLS = 6-12 ]			
* Stomach, Glandular		Mineralization	Moderate
* Testes	Interstit Cell	Adenoma	
		Atrophy	Marked
[ Adenoma TGLS = 4-7 ]			
[ Atrophy TGLS = 5-7 ]			
* Thymus		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 20	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27313

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 5-7 ]	
* Urinary Bladder	Leukemia Mononuclear
[ Leukemia Mononuclear TGLS = 5-7 ]	

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PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear
CONTRIBUTORY CAUSE OF DEATH	- Kidney	Nephropathy

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 21

TRT#: 1

SEX: Male

DAY ON TEST: 693

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27314

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Mammary Gland	* Pancreas	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Glandular
* Thyroid Gland	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
* Kidney	Renal Tubule	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Nephropathy	Marked
	[ Nephropathy TGLS = 6-5+12 ]		
* Liver		Degeneration	Cystic, Moderate
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Marked
	[ Leukemia Mononuclear TGLS = 5-4 ]		
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 1-7 ]		
* Lymph Node, Mandibular		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 1-7 ]		
* Lymph Node, Mediastinal		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 7-2 ]		
* Lymph Node, Mesenteric		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 21

TRT#: 1

SEX: Male

DAY ON TEST: 693

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27314

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi	Degeneration Inflammation Leukemia Mononuclear	Hyaline, Minimal Suppurative, Mild
* Parathyroid Gland		Hyperplasia	Moderate
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
[ Adenoma TGLS = 2-8 ]			
* Preputial GI			
Note: "Enlarged mottled" preputial had dilated duct filled with normal secretion.			
* Spleen		Fibrosis Leukemia Mononuclear	Moderate
[ Fibrosis TGLS = 4-11 ]			
[ Leukemia Mononuclear TGLS = 3-11 ]			
* Stomach, Forestomach		Necrosis	Marked
[ Necrosis TGLS = 9-8 ]			
* Testes	Interstit Cell	Hyperplasia	Minimal
* Thymus		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 22

TRT#: 1

SEX: Male

DAY ON TEST: 626

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27315

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Mammary Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Marked
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-2 ]			
* Heart		Cardiomyopathy	Mild
* Islets, Pancreatic		Adenoma	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Larynx		Hyperplasia	Mild
* Liver		Degeneration	Fatty, Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-4 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-3 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-2 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Thrombosis	Marked
* Pancreas		Atrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 22

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 626

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 27315

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Parathyroid Gland		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
		Leukemia Mononuclear	
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-11 ]		
* Stomach, Forestomach		Necrosis	Moderate
	[ Necrosis TGLS = 7,8-12+13 ]		
* Stomach, Glandular		Necrosis	Moderate
	[ Necrosis TGLS = 9-14 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 6-7 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 23

TRT#: 1

SEX: Male

DAY ON TEST: 653

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27316

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thyroid Gland
* Trachea	* Urinary Bladder		

MISSING

\* Thymus

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Moderate
* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Mild
* Kidney	Renal Tubule	Hyperplasia	Moderate
		Nephropathy	Marked
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Vacuolization Cytoplasmic	Focal, Mild
* Lung	Alveolus	Inflammation	Chronic, Minimal
Lymph Node	Renal	Hemorrhage	Minimal
[ Hemorrhage TGLS = 4-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
		Hyperplasia	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
[ Adenoma TGLS = 5-7 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 23

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 653

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 27316

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Zymbal's Gland

Carcinoma

[ Carcinoma TGLS = 2-11+12+13 ]

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PRIMARY CAUSE OF DEATH

- Zymbal's Gland Carcinoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 24

TRT#: 1

SEX: Male

DAY ON TEST: 520

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 37217

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Epididymis		Granuloma Sperm	Moderate
[ Granuloma Sperm TGLS = 4-7 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Clear Cell Focus	
	Bile Duct	Hyperplasia	Minimal
* Lym Node Mand			
Note: "Enlarged" mandibular lymph nodes were within normal limits microscopically.			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
* Stomach, Forestomach		Mineralization	Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3,5-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
Zymbal's Gland		Carcinoma	
[ Carcinoma TGLS = 2-11+12 ]			

PRIMARY CAUSE OF DEATH

- Zymbal's Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 24

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 520

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 37217

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 25

TRT#: 1

SEX: Male

DAY ON TEST: 721

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27318

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Bronchial	* Mammary Gland
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 3-5 ]			
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
	Bile Duct	Hyperplasia	Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Inflammation	Suppurative, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Skin	Subcut Tiss	Fibroma	
[ Fibroma TGLS = 4-12+13+14+15 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 26

TRT#: 1

SEX: Male

DAY ON TEST: 631

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27319

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Mammary Gland	* Nose	* Pancreas
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Stomach, Glandular	* Trachea	* Urinary Bladder	

MISSING

\* Thymus

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Marked
* Liver		Degeneration	Fatty, Moderate
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
[ Degeneration TGLS = 3-4 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Skin	Sebaceous GI	Squamous Cell Papilloma	
[ Squamous Cell Papilloma TGLS = 4-11 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-11 ]			
* Stomach, Forestomach		Necrosis	Marked
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-7 ]			
* Thyroid Gland	C Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 26

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 631

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 27319

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

C Cell

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Kidney Nephropathy;Liver Leukemia Mononuclear;Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 27

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27320

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Mammary Gland	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Moderate
		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Marked
	[ Nephropathy TGLS = 8-5 ]		
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 7-4 ]		
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 27	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27320

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 3-8 ]			
* Prostate		Hyperplasia	Mild
* Seminal Vesicle		Leukemia Mononuclear	
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
[ Fibrosis TGLS = 6-4+12 ]			
[ Leukemia Mononuclear TGLS = 5-4+12 ]			
* Stomach, Glandular		Mineralization	Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 4-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 28

TRT#: 1

SEX: Male

DAY ON TEST: 737

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27321

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Mammary Gland	* Pancreas	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
* Kidney	Transit Epithe	Hyperplasia	Mild
		Leukemia Mononuclear	
		Nephropathy	Marked
	[ Nephropathy TGLS = 2-5 ]		
* Liver		Basophilic Focus	
		Degeneration	Cystic, Minimal
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
		Mixed Cell Focus	
	[ Basophilic Focus TGLS = 1-11 ]		
	[ Leukemia Mononuclear TGLS = 1-11 ]		
* Lung		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 28

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 737

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 27321

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Parathyroid Gland

Leukemia Mononuclear

Mild

\* Pituitary Gland

Pars Distalis

Hyperplasia

Mild

\* Spleen

Hyperplasia

Leukemia Mononuclear

\* Testes

Bilateral, Interstit Cell

Adenoma

[ Adenoma TGLS = 3,4-7+12 ]

\* Thymus

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 3,4-7+12 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 29

TRT#: 1

SEX: Male

DAY ON TEST: 736

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27322

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Parathyroid Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Pheochromocytoma Benign	
		Pheochromocytoma Malignant	
	[ Pheochromocytoma Malignant TGLS = 6-5 ]		
* Heart		Cardiomyopathy	Moderate
* Kidney		Nephropathy	Marked
	[ Nephropathy TGLS = 4-5 ]		
* Larynx	Epiglottis	Hyperplasia	Mild
		Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Degeneration	Cystic, Minimal
	Bile Duct	Hyperplasia	Mild
		Vacuolization Cytoplasmic	Focal, Mild
	[ Vacuolization Cytoplasmic TGLS = 5-4 ]		
* Lung	Alveolar Epith	Hyperplasia	Mild
	Note: Lungs were "dark" at necropsy due to blood pooled in pulmonary vasculature.		
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLS = 2-11 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 1-8 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 29	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 736 <b>HISTO:</b> 27322
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Preputial Gland [ Adenoma TGLS = 1-8 ]		Adenoma	
* Testes	Interstit Cell	Adenoma	
	Artery	Inflammation	Chronic Active, Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild

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PRIMARY CAUSE OF DEATH	-
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 30

TRT#: 1

SEX: Male

DAY ON TEST: 581

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27323

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Trachea	

MISSING

* Mammary Gland	* Thymus
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
* Bone		Hyperostosis	Mild
* Bone Marrow		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 6-5 ]	
* Brain		Leukemia Mononuclear	
* Heart		Leukemia Mononuclear	
* Islets, Pancreatic		Adenoma	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Minimal
		[ Leukemia Mononuclear TGLS = 3-4 ]	
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 30

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 581

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 27323

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mesentery [ Necrosis TGLS = 1-12 ]	Fat	Necrosis	Mild
* Nose	Olfactory Epi	Degeneration Inflammation Leukemia Mononuclear Thrombosis	Hyaline, Minimal Suppurative, Mild Minimal
* Pancreas [ Leukemia Mononuclear TGLS = 1-12 ]		Leukemia Mononuclear	
* Pituitary Gland [ Leukemia Mononuclear TGLS = 1-12 ]		Leukemia Mononuclear	
* Preputial Gland [ Leukemia Mononuclear TGLS = 1-12 ]		Leukemia Mononuclear	
* Prostate		Hyperplasia Inflammation	Minimal Chronic Active, Mild
* Seminal Vesicle		Leukemia Mononuclear	
* Spleen [ Leukemia Mononuclear TGLS = 2-11 ]		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 31

**TRT#:** 1  
**DOSE:** CONTROL

**SEX:** Male  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 413  
**HISTO:** 27324

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Brain
* Epididymis	* Esophagus	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Bone Marrow		Leukemia Mononuclear	
* Brain			
Note: "Focus, multiple, dark" described at trim was blood in normal vasculature.			
Eye		Degeneration	Mild
Note: Degeneration included mild cataract, marked retinal atrophy, and corneal edema. [ Degeneration TGLS = 3-14 ]			
* Kidney		Leukemia Mononuclear Nephropathy	Mild
[ Leukemia Mononuclear TGLS = 3-14 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver	Bile Duct	Hyperplasia Leukemia Mononuclear	Mild
[ Leukemia Mononuclear TGLS = 8-4 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-3 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>ANIMAL ID:</b> 31	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 413 <b>HISTO:</b> 27324
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**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 1-7 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration Inflammation Thrombosis Atrophy	Hyaline, Minimal Suppurative, Minimal Mild Minimal
* Pancreas		Leukemia Mononuclear	
* Pituitary Gland			
Note: The "focus, 1mm diameter, clear" decribed at necropsy was not apparent microscopically.			
* Preputial GI			
Note: "Enlarged, green" preputial was dilated duct filled with normal secretion.			
* Spleen		Fibrosis Leukemia Mononuclear	Mild
[ Fibrosis TGLS = 7-12 ]			
[ Leukemia Mononuclear TGLS = 6-12 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Minimal
<b>PRIMARY CAUSE OF DEATH</b>	- Spleen Leukemia Mononuclear		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 32

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27325

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	Lymph Node	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
[ Nephropathy TGLS = 3-5 ]			
* Liver		Degeneration	Fatty, Mild
		Eosinophilic Focus	
		Hepatocellular Carcinoma	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Mixed Cell Focus	
[ Hepatocellular Carcinoma TGLS = 5-4+12 ]			
[ Leukemia Mononuclear TGLS = 4-4 ]			
* Lung	Alveolar Epith	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-4+12 ]			
Lymph Node			
Note: "Enlarged" renal lymph node was within normal limits microscopically.			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 32

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 735

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 27325

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 1-8 ]

\* Spleen

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 1-8 ]

\* Testes

Bilateral, Interstit Cell

Adenoma

[ Adenoma TGLS = 2-7 ]

\* Thyroid Gland

C Cell

Adenoma

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 33

TRT#: 1

SEX: Male

DAY ON TEST: 495

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27326

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
		Vacuolization Cytoplasmic	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 2-5 ]			
* Liver	Bile Duct	Hyperplasia	Minimal
Lymph Node	Renal	Hemorrhage	Mild
[ Hemorrhage TGLS = 4-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 34

TRT#: 1

SEX: Male

DAY ON TEST: 629

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27327

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

\* Pituitary Gland

OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign Pheochromocytoma Malignant	
[ Pheochromocytoma Malignant TGLS = 7-5 ]			
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Basophilic Focus	
		Degeneration	Cystic, Mild
		Leukemia Mononuclear	
[ Basophilic Focus TGLS = 4-4 ]			
[ Leukemia Mononuclear TGLS = 4-4 ]			
* Lung		Leukemia Mononuclear	
		Squamous Cell Carcinoma	Metastatic (Skin)
[ Leukemia Mononuclear TGLS = 3-3+11 ]			
[ Squamous Cell Carcinoma TGLS = 3-3+11 ]			
Lymph Node Iliac		Squamous Cell Carcinoma	Metastatic (Skin)
[ Squamous Cell Carcinoma TGLS = 6-15 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-5 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 34

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 629

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 27327

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Lymph Node, Mesenteric		Leukemia Mononuclear	
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 5-16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Skin		Squamous Cell Carcinoma	
[ Squamous Cell Carcinoma TGLS = 1-7+12+13+14 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7+12+13+14 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-7 ]			

**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 35

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27328

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Parathyroid Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Marked
	[ Nephropathy TGLS = 5-5 ]		
* Liver		Basophilic Focus	
	[ Basophilic Focus TGLS = 5-5 ]	Hepatodiaphragmatic Nodule	
	[ Hepatodiaphragmatic Nodule TGLS = 6-11 ]		
* Lung		Foreign Body	
	Alveolar Epith	Hyperplasia	Minimal
		Inflammation	Granulomatous, Mild
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 4-8 ]		
* Skin			

Note: "Ulcer, 2mm diameter, red" described at necropsy was duct of preputial gland filled with normal secretion.

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 35

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 735

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 27328

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes	Interstit Cell	Hyperplasia	Minimal
* Thyroid Gland	C Cell	Carcinoma	
	C Cell	Hyperplasia	Minimal

[ Carcinoma TGLS = 3-2 ]

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 36

TRT#: 1

SEX: Male

DAY ON TEST: 736

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27329

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Thymus
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Bronchial	* Mammary Gland
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Mild
* Adrenal Medulla		Pheochromocytoma Benign	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
* Intestine Large, Cecum		Mineralization	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Marked
	[ Nephropathy TGLS = 5-5 ]		
* Liver		Degeneration	Cystic, Moderate
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-5 ]		
* Lung		Leukemia Mononuclear	
	Note: Fibrosis & histiocytic infiltrate were secondary to leukemia, thus were not diagnosed separately.		
	[ Leukemia Mononuclear TGLS = 6-3+3A ]		
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
* Pancreas		Atrophy	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 36	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 736
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27329

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 1-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-11 ]			
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2,3-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 37

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27330

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Bone                     | * Brain                   | * Esophagus                 | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    | * Lymph Node, Mesenteric |
| * Parathyroid Gland        | * Preputial Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Trachea                 | * Urinary Bladder           |                          |

MISSING

- |                          |                 |
|--------------------------|-----------------|
| * Lymph Node, Mandibular | * Mammary Gland |
|--------------------------|-----------------|

OBSERVATIONS

- |                           |               |                                     |                  |
|---------------------------|---------------|-------------------------------------|------------------|
| * Adrenal Cortex          |               | Leukemia Mononuclear                |                  |
| * Adrenal Medulla         |               | Hyperplasia                         | Mild             |
|                           |               | Leukemia Mononuclear                |                  |
|                           |               | Pheochromocytoma Benign             |                  |
| * Bone Marrow             |               | Leukemia Mononuclear                |                  |
| * Epididymis              |               | Leukemia Mononuclear                |                  |
| * Heart                   |               | Cardiomyopathy                      | Minimal          |
| * Kidney                  | Renal Tubule  | Adenoma                             |                  |
|                           | Renal Tubule  | Hyperplasia                         | Mild             |
|                           |               | Leukemia Mononuclear                |                  |
|                           |               | Nephropathy                         | Marked           |
|                           |               | [ Leukemia Mononuclear TGLS = 4-5 ] |                  |
|                           |               | [ Nephropathy TGLS = 4-5 ]          |                  |
| * Liver                   |               | Degeneration                        | Cystic, Mild     |
|                           | Bile Duct     | Hyperplasia                         | Moderate         |
|                           |               | Leukemia Mononuclear                |                  |
| * Lung                    |               | Leukemia Mononuclear                |                  |
| * Lymph Node, Bronchial   |               | Leukemia Mononuclear                |                  |
| * Lymph Node, Mediastinal |               | Leukemia Mononuclear                |                  |
| * Nose                    | Olfactory Epi | Degeneration                        | Hyaline, Minimal |
|                           |               | Leukemia Mononuclear                |                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 37

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27330

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pancreas		Thrombosis	Minimal
		Atrophy	Minimal
		Basophilic Focus	
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
	[ Adenoma TGLS = 1-8 ]		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-11 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 2,3-12+7 ]		
* Thyroid Gland	C Cell	Carcinoma	
	C Cell	Hyperplasia	Mild
	[ Carcinoma TGLS = 6-2 ]		

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 38

TRT#: 1

SEX: Male

DAY ON TEST: 655

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27331

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Seminal Vesicle
* Skin	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear Vacuolization Cytoplasmic	Mild
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Moderate
* Kidney		Leukemia Mononuclear Nephropathy	Moderate
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver	Bile Duct	Hyperplasia	Moderate
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
Mesentery	Fat	Necrosis	Moderate
[ Necrosis TGLS = 5-13 ]			
* Nose	Olfactory Epi	Degeneration Leukemia Mononuclear Thrombosis	Hyaline, Mild  Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 38	<b>TRT#:</b> 1	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 655
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27331

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 3,4-7 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Salivary Glands		Atrophy	Minimal
* Spleen		Hemangiosarcoma	
		Leukemia Mononuclear	
[ Hemangiosarcoma TGLS = 8-12 ]			
[ Leukemia Mononuclear TGLS = 6-11 ]			
* Stomach, Forestomach		Leukemia Mononuclear	
* Stomach, Glandular		Leukemia Mononuclear	
		Necrosis	Mild
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3,4-7 ]			

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**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 39

TRT#: 1

SEX: Male

DAY ON TEST: 559

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27332

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                          |                           |                          |
|----------------------------|--------------------------|---------------------------|--------------------------|
| * Bone                     | * Brain                  | * Epididymis              | * Esophagus              |
| * Intestine Large, Cecum   | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic     | * Larynx                  | * Mammary Gland          |
| * Parathyroid Gland        | * Preputial Gland        | * Salivary Glands         | * Skin                   |
| * Stomach, Forestomach     | * Trachea                |                           |                          |

OBSERVATIONS

- |                             |               |                                      |                  |
|-----------------------------|---------------|--------------------------------------|------------------|
| * Adrenal Cortex            |               | Leukemia Mononuclear                 |                  |
| * Adrenal Medulla           |               | Hyperplasia                          | Mild             |
|                             |               | Leukemia Mononuclear                 |                  |
|                             |               | Pheochromocytoma Benign              |                  |
| * Bone Marrow               |               | Leukemia Mononuclear                 |                  |
| * Heart                     |               | Leukemia Mononuclear                 |                  |
| * Intestine Small, Duodenum |               | Leukemia Mononuclear                 |                  |
| * Kidney                    |               | Leukemia Mononuclear                 |                  |
|                             |               | Nephropathy                          | Mild             |
| * Liver                     |               | Degeneration                         | Fatty, Moderate  |
|                             | Bile Duct     | Hyperplasia                          | Mild             |
|                             |               | Leukemia Mononuclear                 |                  |
|                             |               | [ Leukemia Mononuclear TGLS = 2-4 ]  |                  |
| * Lung                      |               | Leukemia Mononuclear                 |                  |
| Lymph Node                  | Renal         | Leukemia Mononuclear                 |                  |
|                             |               | [ Leukemia Mononuclear TGLS = 3-12 ] |                  |
| * Lymph Node, Bronchial     |               | Leukemia Mononuclear                 |                  |
| * Lymph Node, Mandibular    |               | Leukemia Mononuclear                 |                  |
| * Lymph Node, Mediastinal   |               | Leukemia Mononuclear                 |                  |
| * Lymph Node, Mesenteric    |               | Leukemia Mononuclear                 |                  |
| * Nose                      | Olfactory Epi | Degeneration                         | Hyaline, Minimal |
|                             |               | Leukemia Mononuclear                 |                  |
|                             |               | Thrombosis                           | Marked           |
|                             |               | [ Leukemia Mononuclear TGLS = 1-13 ] |                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 39

TRT#: 1

SEX: Male

DAY ON TEST: 559

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27332

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pancreas		Atrophy	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-12 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
		Leukemia Mononuclear	
* Prostate		Leukemia Mononuclear	
* Seminal Vesicle		Leukemia Mononuclear	
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-11 ]			
* Stomach, Glandular		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 5-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-13 ]			

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 40

TRT#: 1

SEX: Male

DAY ON TEST: 737

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27333

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Moderate
* Kidney	Transit Epithe	Hyperplasia	Mild
		Nephropathy	Marked
	[ Nephropathy TGLS = 6-5 ]		
* Larynx	Epiglottis	Hyperplasia	Mild
		Inflammation	Chronic, Mild
* Liver	Bile Duct	Hyperplasia	Minimal
	[ Leukemia Mononuclear TGLS = 5-4 ]		
* Lung		Leukemia Mononuclear	
* Mammary Gland		Galactocele	Moderate
	[ Galactocele TGLS = 1-12 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Minimal
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 2-8 ]		
* Spleen		Fibrosis	Mild
	[ Fibrosis TGLS = 4-4 ]	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 40	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 737 <b>HISTO:</b> 27333
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 2-8 ]			
* Stomach, Forestomach		Necrosis	Marked
* Stomach, Glandular		Necrosis	Moderate
* Testes	Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
Tissue NOS		Chemodectoma Malignant	
Note: "Renal lymph node, enlarged" was actually paraganglioma (chemodectoma).			
[ Chemodectoma Malignant TGLS = 7-13 ]			

---

PRIMARY CAUSE OF DEATH

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-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 41

TRT#: 1

SEX: Male

DAY ON TEST: 436

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27334

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Bone Marrow		Leukemia Mononuclear	
* Epididymis		Mesothelioma Benign	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
		Mixed Cell Focus	
[ Leukemia Mononuclear TGLS = 2-4 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-4 ]			
* Testes		Mesothelioma Benign	
[ Mesothelioma Benign TGLS = 3-4 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-4 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 41

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 436

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 27334

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Spleen Leukemia Mononuclear; Testes Mesothelioma Benign; Thymus Leukemia Mononuclear

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 42

TRT#: 1

SEX: Male

DAY ON TEST: 715

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27335

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone Marrow	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla	Bilateral	Hyperplasia	Mild
		Pheochromocytoma Benign	
* Bone		Fibrous Osteodystrophy	Minimal
* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis	Inflammation	Acute, Mild
		Nephropathy	Marked
	[ Nephropathy TGLS = 4-5 ]		
* Liver		Angiectasis	Minimal
		Basophilic Focus	
* Lung	Bile Duct	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Minimal
	[ Inflammation TGLS = 2-11 ]		
* Mammary Gland		Galactocele	Moderate
	[ Galactocele TGLS = 1-12 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
	Olfactory Epi	Metaplasia	Focal, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 3-8 ]		
* Prostate		Inflammation	Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 42	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 715 <b>HISTO:</b> 27335
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Inflammation TGLS = 5-8 ]

* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder	Transit Epithe	Hyperplasia	Mild

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PRIMARY CAUSE OF DEATH	- Pituitary Gland Pars Distalis Adenoma
CONTRIBUTORY CAUSE OF DEATH	- Kidney Nephropathy

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 43

TRT#: 1

SEX: Male

DAY ON TEST: 581

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27336

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Moderate
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
* Liver		Basophilic Focus	
		Degeneration	Fatty, Mild
	Bile Duct	Hyperplasia	Mild
* Lung	Alveolar Epith	Hyperplasia	Mild
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Testes		Atrophy	Mild
	Interstitial Cell	Hyperplasia	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 44

TRT#: 1

SEX: Male

DAY ON TEST: 606

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27337

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Lymph Node, Mandibular	* Parathyroid Gland	* Pituitary Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
	Atrium	Thrombosis	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Degeneration	Fatty, Moderate
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
	[ Leukemia Mononuclear TGLS = 3-4 ]		
* Lung	Alveolar Epith	Hyperplasia	Mild
		Leukemia Mononuclear	
		Metaplasia	Osseous, Minimal
* Lymph Node, Bronchial		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-6 ]		
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-6 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 44	<b>TRT#:</b> 1 <b>DOSE:</b> CONTROL	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 606 <b>HISTO:</b> 27337
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Skin		Inflammation	Acute, Mild
Note: "Inflammation" was collection of keratin, hair, neutrophils, and proteinaceous debris on surface of skin. [ Inflammation TGLS = 1-12 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-11 ]			
* Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal

---

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 45

TRT#: 1

SEX: Male

DAY ON TEST: 425

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27338

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Degeneration	Fatty, Minimal
* Lung			
Note: "Red" lungs at necropsy were due to pooling of blood in normal pulmonary vasculature.			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 46

TRT#: 1

SEX: Male

DAY ON TEST: 735

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27339

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Moderate
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 3-5 ]			
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Degeneration	Fatty, Minimal
		Degeneration	Cystic, Moderate
	Bile Duct	Hyperplasia	Minimal
[ Basophilic Focus TGLS = 3-5 ]			
[ Clear Cell Focus TGLS = 3-5 ]			
[ Degeneration TGLS = 4-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Hyperplasia	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
* Prostate		Hyperplasia	Mild
* Testes	Interstit Cell	Adenoma	
		Atrophy	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 46

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 735

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 27339

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Artery

Inflammation

Chronic Active, Moderate

[ Adenoma TGLS = 2-7 ]

[ Atrophy TGLS = 1-7 ]

\* Thyroid Gland

C Cell

Hyperplasia

Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 47

TRT#: 1

SEX: Male

DAY ON TEST: 736

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27340

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Trachea	* Urinary Bladder

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Moderate
* Kidney		Leukemia Mononuclear	
		Nephropathy	Marked
	[ Nephropathy TGLS = 7-5+12 ]		
* Liver		Basophilic Focus	
		Degeneration	Cystic, Mild
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
	[ Degeneration TGLS = 6-4 ]		
	[ Leukemia Mononuclear TGLS = 7-5+12 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Adenoma	
	[ Adenoma TGLS = 6-4 ]		
* Parathyroid Gland		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 3-8 ]		
* Preputial Gland		Carcinoma	
	[ Carcinoma TGLS = 1-13+14 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 47

TRT#: 1

SEX: Male

DAY ON TEST: 736

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27340

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Prostate		Hyperplasia	Mild
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
[ Fibrosis TGLS = 2-11 ]			
* Stomach, Glandular		Mineralization	Minimal
* Testes	Interstit Cell	Adenoma	
		Atrophy	Moderate
[ Adenoma TGLS = 4-7 ]			
[ Atrophy TGLS = 5-7 ]			
* Thymus		Cyst	Mild
* Thyroid Gland	Follicular Cel	Adenoma	
	C Cell	Hyperplasia	Minimal
	Follicular Cel	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 48

TRT#: 1

SEX: Male

DAY ON TEST: 736

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27341

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Lymph Node, Bronchial
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Parathyroid Gland
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Adrenal Medulla		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Mild
* Islets, Pancreatic		Adenoma	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
[ Nephropathy TGLS = 5-5 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Degeneration	Cystic, Moderate
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
		Mixed Cell Focus	
[ Basophilic Focus TGLS = 5-5 ]			
[ Clear Cell Focus TGLS = 4-12 ]			
[ Leukemia Mononuclear TGLS = 3-4 ]			
[ Mixed Cell Focus TGLS = 3-4 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-12 ]			
* Lymph Node, Mandibular		Infiltration Cellular	Plasma Cell, Marked
[ Infiltration Cellular TGLS = 2-7 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 48

TRT#: 1

SEX: Male

DAY ON TEST: 736

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27341

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
Oral Mucosa	Pharyngeal	Squamous Cell Carcinoma	
	[ Squamous Cell Carcinoma TGLS = 8-10+11 ]		
* Pancreas		Atrophy	Mild
		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
* Prostate		Hyperplasia	Mild
* Skin			
	Note: "Lesion, 2mm diameter, dark" was dilated preputial gland duct filled with normal secretion.		
* Spleen		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 6,7-7+14 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 49

TRT#: 1

SEX: Male

DAY ON TEST: 643

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27342

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mesenteric
* Mammary Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Thymus	* Trachea	* Urinary Bladder

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
	Atrium	Thrombosis	Marked
* Kidney	Renal Tubule	Hyperplasia	Mild
		Nephropathy	Marked
* Liver		Degeneration	Fatty, Moderate
	Bile Duct	Hyperplasia	Mild
	[ Degeneration TGLS = 3-4 ]		
* Lung		Thrombosis	Mild
	[ Thrombosis TGLS = 6-3+12 ]		
* Lymph Node, Mediastinal		Hemorrhage	Mild
	[ Hemorrhage TGLS = 5-2 ]		
* Nose		Thrombosis	Moderate
* Pancreas		Atrophy	Moderate
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 2-8 ]		
* Skin		Inflammation	Chronic Active, Mild
	[ Inflammation TGLS = 1-11 ]		
* Spleen		Fibrosis	Mild
	[ Fibrosis TGLS = 4-4 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 49

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 643

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 27342

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Stomach, Forestomach

Necrosis

Mild

\* Stomach, Glandular

Necrosis

Moderate

[ Necrosis TGLS = 7-8 ]

\* Testes

Bilateral, Interstit Cell

Adenoma

\* Thyroid Gland

C Cell

Hyperplasia

Mild

---

**PRIMARY CAUSE OF DEATH**

- Kidney Nephropathy

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 50

TRT#: 1

SEX: Male

DAY ON TEST: 712

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27343

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Stomach, Glandular
* Trachea	* Urinary Bladder		

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Moderate
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-2 ]			
* Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-2 ]			
* Kidney		Fibrosis	Focal, Marked
	Transit Epithe	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Nephropathy	Marked
[ Fibrosis TGLS = 13-13 ]			
[ Leukemia Mononuclear TGLS = 13-13 ]			
[ Nephropathy TGLS = 12-5 ]			
* Liver		Basophilic Focus	
		Degeneration	Cystic, Mild
		Degeneration	Fatty, Mild
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 16-12 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 50

TRT#: 1

SEX: Male

DAY ON TEST: 712

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27343

ORGAN AND ACCOUNTABLE SITE STATUS

* Lung	Alveolar Epith	Hyperplasia Leukemia Mononuclear	Moderate
[ Hyperplasia TGLS = 5-3 ]			
[ Leukemia Mononuclear TGLS = 4-3 ]			
Lymph Node	Iliac Pancreatic Renal	Leukemia Mononuclear Leukemia Mononuclear Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 17-18 ]			
[ Leukemia Mononuclear TGLS = 15-17 ]			
[ Leukemia Mononuclear TGLS = 14-16 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 17-6+18 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 17-6+18 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-14 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 17-6+18 ]			
* Nose	Olfactory Epi	Degeneration Leukemia Mononuclear	Hyaline, Mild
Thrombosis			
* Pancreas		Atrophy	Moderate
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	Moderate
[ Adenoma TGLS = 2,3-8 ]			
* Prostate		Inflammation	Chronic Active, Moderate
* Seminal Vesicle		Inflammation	Chronic Active, Moderate
[ Inflammation TGLS = 7-8 ]			
* Skin	Subcut Tiss	Fibroma	
[ Fibroma TGLS = 6-15 ]			
* Spleen		Fibrosis	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 50

TRT#: 1

SEX: Male

DAY ON TEST: 712

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27343

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Fibrosis TGLS = 9-11 ]		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-11 ]			
* Stomach, Forestomach		Necrosis	Moderate
Note: There was no microscopic finding to account for the "dilatation" described at necropsy.			
[ Necrosis TGLS = 11-14 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
* Thymus		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 201

TRT#: 3

SEX: Male

DAY ON TEST: 660

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27594

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Brain                    | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    |
| * Parathyroid Gland      | * Prostate                 | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder          |                           |                             |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                                      |               |                                     |          |
|--------------------------------------|---------------|-------------------------------------|----------|
| * Adrenal Cortex                     |               | Hyperplasia<br>Leukemia Mononuclear | Mild     |
| [ Leukemia Mononuclear TGLS = 8-6 ]  |               |                                     |          |
| * Adrenal Medulla                    |               | Hyperplasia<br>Leukemia Mononuclear | Moderate |
| * Bone Marrow                        |               | Leukemia Mononuclear                |          |
| * Heart                              |               | Cardiomyopathy                      | Minimal  |
| * Kidney                             |               | Leukemia Mononuclear<br>Nephropathy | Moderate |
| [ Nephropathy TGLS = 6-5 ]           |               |                                     |          |
| * Liver                              | Bile Duct     | Hyperplasia<br>Leukemia Mononuclear | Moderate |
|                                      | Centrilobular | Necrosis                            | Mild     |
| [ Leukemia Mononuclear TGLS = 5-4 ]  |               |                                     |          |
| * Lung                               |               | Leukemia Mononuclear                |          |
| [ Leukemia Mononuclear TGLS = 2-3 ]  |               |                                     |          |
| Lymph Node                           | Pancreatic    | Leukemia Mononuclear                |          |
|                                      | Renal         | Leukemia Mononuclear                |          |
| [ Leukemia Mononuclear TGLS = 7-12 ] |               |                                     |          |
| [ Leukemia Mononuclear TGLS = 3-11 ] |               |                                     |          |
| * Lymph Node, Bronchial              |               | Leukemia Mononuclear                |          |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 201

TRT#: 3

SEX: Male

DAY ON TEST: 660

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27594

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 8-6 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-6 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-2 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-6 ]			
* Nose		Leukemia Mononuclear Thrombosis	Moderate
[ Leukemia Mononuclear TGLS = 10-7 ]			
* Pancreas		Atrophy Leukemia Mononuclear	Mild
[ Leukemia Mononuclear TGLS = 3-11 ]			
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear Adenoma	
* Preputial Gland			
[ Adenoma TGLS = 1-13 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-11 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 10-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-7 ]			

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 202

TRT#: 3

DOSE: 10 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 688

HISTO: 27595

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Lymph Node, Mandibular	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
* Adrenal Medulla	Bilateral	Hyperplasia	Marked
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-2 ]			
* Heart		Cardiomyopathy	Moderate
	Atrium	Thrombosis	Minimal
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Basophilic Focus	
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
		Mixed Cell Focus	
[ Leukemia Mononuclear TGLS = 6-4 ]			
* Lung	Alveolar Epith	Hyperplasia	Mild
		Leukemia Mononuclear	
		Thrombosis	Mild
[ Leukemia Mononuclear TGLS = 2-3+3A ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 202

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 688

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27595

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland [ Adenoma TGLS = 3-8 ]	Pars Distalis	Adenoma	
* Skin [ Fibroma TGLS = 4-12 ] [ Hyperkeratosis TGLS = 7-11 ]	Subcut Tiss	Fibroma Hyperkeratosis	Moderate
* Spleen [ Fibrosis TGLS = 8-13 ] [ Leukemia Mononuclear TGLS = 5-13 ]		Fibrosis Leukemia Mononuclear	Moderate
* Testes [ Adenoma TGLS = 9-7 ]	Bilateral, Interstit Cell	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 203

TRT#: 3

SEX: Male

DAY ON TEST: 735

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27596

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Mammary Gland	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 3-5 ]			
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Degeneration	Cystic, Moderate
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Basophilic Focus TGLS = 3-5 ]			
[ Leukemia Mononuclear TGLS = 4-4 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 203	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27596

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
[ Fibrosis TGLS = 6-12 ]			
[ Leukemia Mononuclear TGLS = 5-11 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-7 ]			
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 204

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27597

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Parathyroid Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Bronchial	* Mammary Gland
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OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Minimal
* Adrenal Medulla		Hyperplasia	Mild
		Pheochromocytoma Benign	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Degeneration	Cystic, Mild
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
* Lung	Alveolar Epith	Hyperplasia	Mild
		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-3+3A+12 ]		
Lymph Node	Iliac	Ectasia	Moderate
	[ Ectasia TGLS = 6-15 ]		
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
	Respirat Epith	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
		Thrombosis	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 204	<b>TRT#:</b> 3 <b>DOSE:</b> 10 MG/M3	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 730 <b>HISTO:</b> 27597
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Preputial Gland		Carcinoma	
[ Carcinoma TGLS = 2-7+14 ]			
* Skin		Basal Cell Carcinoma	
[ Basal Cell Carcinoma TGLS = 7-11 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-13 ]			
* Testes	Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-7 ]			
* Thyroid Gland	C Cell	Adenoma	

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PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear
CONTRIBUTORY CAUSE OF DEATH	- Skin Basal Cell Carcinoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 205

TRT#: 3

DOSE: 10 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 571

HISTO: 27598

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Minimal
* Intestine Small, Duodenum		Carcinoma	
[ Carcinoma TGLS = 7-12+13+14+15+16 ]			
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-4 ]		Mixed Cell Focus	
* Lymph Node, Mediastinal		Hemorrhage	Mild
* Lymph Node, Mesenteric		Ectasia	Marked
[ Ectasia TGLS = 8-17 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-11 ]			
* Stomach, Forestomach		Necrosis	Mild
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 6-7 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 205	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 571
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27598

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Intestine Small, Duodenum Carcinoma		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 206

TRT#: 3

SEX: Male

DAY ON TEST: 509

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27599

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Degeneration	Fatty, Minimal
	Bile Duct	Hyperplasia	Mild
		Vacuolization Cytoplasmic	Focal, Moderate
	[ Vacuolization Cytoplasmic TGLS = 3-11 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 1-8 ]		
* Skin		Inflammation	Chronic Active, Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 207

TRT#: 3

SEX: Male

DAY ON TEST: 574

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27600

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Trachea		

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Minimal
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-1 ]			
* Heart		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-1 ]			
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
[ Leukemia Mononuclear TGLS = 6-1 ]			
* Liver		Degeneration	Fatty, Mild
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-4 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:29  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 207	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 574
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27600

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pituitary Gland	Pars Distalis	Leukemia Mononuclear Adenoma Leukemia Mononuclear	
[ Adenoma TGLS = 2-8 ]			
* Spleen		Fibrosis Leukemia Mononuclear	Minimal
[ Fibrosis TGLS = 4-11 ]			
[ Leukemia Mononuclear TGLS = 3-11 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-11 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Urinary Bladder		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH      - Thymus    Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:29

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 208

TRT#: 3

DOSE: 10 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27601

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Larynx
* Lymph Node, Mandibular	* Mammary Gland	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla	Bilateral	Hyperplasia	Mild
* Heart		Cardiomyopathy	Moderate
* Islets, Pancreatic		Carcinoma	
[ Carcinoma TGLS = 3-12 ]			
* Kidney		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-12 ]		Nephropathy	Moderate
* Liver		Angiectasis	Mild
		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pancreas		Adenoma	
		Atrophy	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Prostate		Hyperplasia	Minimal
* Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:29

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 208

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 735

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27601

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 2-11 ]

* Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal
* Thymus		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Minimal

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 209

TRT#: 3

SEX: Male

DAY ON TEST: 581

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27602

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Jejunum	* Larynx	* Mammary Gland
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Stomach, Forestomach
* Trachea			

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 13-6 ]			
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 13-6 ]			
* Bone		Hyperostosis	Mild
* Bone Marrow		Leukemia Mononuclear	
		Myelofibrosis	Marked
* Brain		Leukemia Mononuclear	
* Heart		Leukemia Mononuclear	
	Atrium	Thrombosis	Moderate
* Intestine Large, Colon		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 13-6 ]			
* Intestine Small, Ileum		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 12-6 ]			
* Islets, Pancreatic		Adenoma	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
		Mixed Cell Focus	
	Centrilobular	Necrosis	Mild
[ Leukemia Mononuclear TGLS = 6,8-12+4 ]			
[ Mixed Cell Focus TGLS = 7-11 ]			
* Lung		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 209

TRT#: 3

SEX: Male

DAY ON TEST: 581

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27602

ORGAN AND ACCOUNTABLE SITE STATUS

[ Leukemia Mononuclear TGLS = 6,8-12+4 ]		Thrombosis	Mild
Lymph Node	Pancreatic	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-15 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-7 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-7 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-2 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
		Leukemia Mononuclear	
* Pancreas		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-15 ]			
* Pituitary Gland		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-15 ]			
* Prostate		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-15 ]			
* Seminal Vesicle		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-15 ]			
* Skin		Inflammation	Chronic Active, Minimal
[ Inflammation TGLS = 1-14 ]			
* Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
[ Fibrosis TGLS = 10-13 ]			
[ Leukemia Mononuclear TGLS = 9-13 ]			
* Stomach, Glandular		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
* Thymus		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 209

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 581

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27602

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 4-2 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

\* Urinary Bladder

Leukemia Mononuclear

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**PRIMARY CAUSE OF DEATH**

- Spleen Leukemia Mononuclear

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 210

TRT#: 3

DOSE: 10 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 629

HISTO: 27603

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Mild
Eye		Degeneration	Moderate
Note: Degeneration included moderate cataract, marked retinal atrophy, and posterior synechia.			
[ Degeneration TGLS = 1-12 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 2-5+11 ]			
* Liver		Basophilic Focus	
		Degeneration	Fatty, Mild
		Degeneration	Cystic, Mild
	Bile Duct	Hyperplasia	Mild
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Skin	Subcut Tiss	Fibroma	
	Subcut Tiss	Fibrous Histiocytoma	
		Inflammation	Acute, Mild
[ Fibroma TGLS = 6-14 ]			
[ Fibrous Histiocytoma TGLS = 5-13 ]			
* Spleen			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

---

**ANIMAL ID:** 210

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 629

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27603

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: "Enlarged, 4x1cm" spleen was within normal limits microscopically.

* Testes	Interstit Cell	Hyperplasia	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

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**PRIMARY CAUSE OF DEATH** - Pituitary Gland Pars Distalis Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 211

TRT#: 3

SEX: Male

DAY ON TEST: 274

DOSE: 10 MG/M3

DISP: Natural Death

HISTO: 27604

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Liver	* Lung
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Nose	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thyroid Gland	* Trachea	* Urinary Bladder	

MISSING

\* Mammary Gland

OBSERVATIONS

* Brain		Hemorrhage	Moderate
[ Hemorrhage TGLS = 3-1 ]			
* Kidney		Nephropathy	Minimal
* Larynx	Epiglottis	Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thymus		Hemorrhage	Moderate
[ Hemorrhage TGLS = 1-2 ]			

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 212

TRT#: 3

SEX: Male

DAY ON TEST: 716

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27605

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder		

MISSING

\* Thymus

INSUFFICIENT TISSUE

\* Mammary Gland

OBSERVATIONS

* Adrenal Medulla		Hyperplasia Pheochromocytoma Complex	Mild
[ Pheochromocytoma Complex TGLS = 5-11 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
* Liver		Basophilic Focus Degeneration	Cystic, Moderate
[ Basophilic Focus TGLS = 4-4 ]			
[ Degeneration TGLS = 4-4 ]			
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Mild Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
* Skin		Keratoacanthoma	
[ Keratoacanthoma TGLS = 1-12 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2,3-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 212

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 716

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27605

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Skin Keratoacanthoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 213

TRT#: 3

SEX: Male

DAY ON TEST: 408

DOSE: 10 MG/M3

DISP: Natural Death

HISTO: 27606

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Liver	* Lung
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thyroid Gland	* Trachea	* Urinary Bladder

AUTO PRECLUDES DIAG.

* Intestine Large, Colon	* Larynx
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OBSERVATIONS

* Kidney [ Sarcoma TGLS = 3-12+13 ]		Sarcoma	
* Lymph Node, Bronchial [ Leukemia Mononuclear TGLS = 5-11 ]		Leukemia Mononuclear	
* Lymph Node, Mediastinal [ Leukemia Mononuclear TGLS = 4-2 ]		Leukemia Mononuclear	
* Pituitary Gland [ Hyperplasia TGLS = 1-8 ]	Pars Distalis	Hyperplasia	Mild
* Skin [ Inflammation TGLS = 5-11 ]		Inflammation	Chronic Active, Moderate
* Spleen [ Leukemia Mononuclear TGLS = 5-11 ]		Leukemia Mononuclear	
* Thymus [ Leukemia Mononuclear TGLS = 5-11 ]		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

- Kidney Sarcoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 214

TRT#: 3

SEX: Male

DAY ON TEST: 607

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27607

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Bone                     | * Brain                   | * Esophagus                 | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    | * Parathyroid Gland      |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    | * Thyroid Gland          |
| * Trachea                  |                           |                             |                          |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |  |               |                      |               |
|--|---------------|----------------------|---------------|
| * Adrenal Cortex                       |               | Leukemia Mononuclear |               |
| * Adrenal Medulla                      |               | Leukemia Mononuclear |               |
| * Bone Marrow                          |               | Leukemia Mononuclear |               |
| [ Leukemia Mononuclear TGLS = 4-2 ]    |               |                      |               |
| * Epididymis                           |               | Granuloma Sperm      | Moderate      |
| * Heart                                |               | Cardiomyopathy       | Mild          |
| * Kidney                               |               | Leukemia Mononuclear |               |
|  |               | Nephropathy          | Moderate      |
| * Liver                                |               | Angiectasis          | Minimal       |
|  |               | Basophilic Focus     |               |
|  | Bile Duct     | Hyperplasia          | Moderate      |
|  |               | Leukemia Mononuclear |               |
|  | Centrilobular | Necrosis             | Mild          |
| [ Leukemia Mononuclear TGLS = 6-4 ]    |               |                      |               |
| * Lung                                 |               | Leukemia Mononuclear |               |
| [ Leukemia Mononuclear TGLS = 4-3+3A ] |               |                      |               |
| * Lymph Node, Bronchial                |               | Leukemia Mononuclear |               |
| * Lymph Node, Mandibular               |               | Leukemia Mononuclear |               |
| * Lymph Node, Mediastinal              |               | Leukemia Mononuclear |               |
| * Lymph Node, Mesenteric               |               | Leukemia Mononuclear |               |
| * Nose                                 | Olfactory Epi | Degeneration         | Hyaline, Mild |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 214

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 607

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27607

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pancreas		Leukemia Mononuclear	
* Pituitary Gland	Pars Distalis	Atrophy	Minimal
* Skin		Adenoma	
		Inflammation	Acute, Marked
		Inflammation	Chronic Active, Moderate
	[ Inflammation TGLS = 1-11 ]		
	[ Inflammation TGLS = 2-13 ]		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-12 ]		
* Testes	Interstit Cell	Adenoma	
* Urinary Bladder		Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 215

TRT#: 3

DOSE: 10 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 727

HISTO: 27608

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Rectum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Preputial Gland
* Prostate	* Skin	* Spleen	* Thymus
* Thyroid Gland	* Urinary Bladder		

OBSERVATIONS

* Adrenal Medulla	Bilateral	Pheochromocytoma Benign	
Blood Vessel	Aorta	Mineralization	Marked
* Bone		Fibrous Osteodystrophy	Marked
* Heart	Artery	Cardiomyopathy	Moderate
[ Mineralization TGLS = 6-4 ]		Mineralization	Marked
* Intestine Large, Colon		Mineralization	Mild
* Intestine Small, Duodenum		Mineralization	Mild
* Intestine Small, Ileum		Mineralization	Mild
* Kidney	Transit Epithe	Hyperplasia	Mild
		Mineralization	Marked
[ Nephropathy TGLS = 5-5 ]		Nephropathy	Marked
* Larynx		Mineralization	Moderate
* Liver		Basophilic Focus	
		Degeneration	Fatty, Mild
		Degeneration	Cystic, Mild
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Mild
[ Basophilic Focus TGLS = 5-5 ]			
[ Degeneration TGLS = 7,8,9-4+11 ]			
[ Eosinophilic Focus TGLS = 5-5 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 215

TRT#: 3

SEX: Male

DAY ON TEST: 727

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27608

ORGAN AND ACCOUNTABLE SITE STATUS

	Artery, Mediastinum	Mineralization	Marked
		Mineralization	Marked
Mesentery	Artery	Mineralization	Moderate
* Nose		Inflammation	Suppurative, Moderate
* Parathyroid Gland		Hyperplasia	Marked
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Salivary Glands	Artery	Mineralization	Moderate
* Seminal Vesicle		Mineralization	Mild
Skeletal Muscle		Mineralization	Marked
[ Mineralization TGLS = 10-12 ]			
* Spleen			
Note: "Enlarged" spleen was within normal limits microscopically.			
* Stomach, Forestomach		Mineralization	Moderate
* Stomach, Glandular		Mineralization	Moderate
		Necrosis	Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3,11-7 ]			
* Thymus			
Note: "Enlarged, 1.5cm diameter, mottled" thymus was within normal limits microscopically.			
* Trachea		Mineralization	Moderate

PRIMARY CAUSE OF DEATH

- Liver Eosinophilic Focus

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 216

TRT#: 3

DOSE: 10 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 569

HISTO: 27609

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 3-5 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Degeneration	Fatty, Minimal
* Lung	Artery, Mediastinum	Inflammation	Mild
* Mammary Gland		Galactocele	Moderate
[ Galactocele TGLS = 1-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Stomach, Forestomach		Inflammation	Acute, Minimal
* Testes		Atrophy	Moderate
	Artery	Inflammation	Chronic Active, Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 217

TRT#: 3

SEX: Male

DAY ON TEST: 735

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27610

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Jejunum	* Larynx
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Medulla		Hyperplasia Pheochromocytoma Benign	Mild
* Heart		Cardiomyopathy	Mild
* Intestine Small, Ileum		Inflammation	Chronic Active, Moderate
* Islets, Pancreatic		Hyperplasia	Mild
* Kidney [ Nephropathy TGLS = 4-5 ]		Nephropathy	Marked
* Liver [ Basophilic Focus TGLS = 4-5 ] [ Clear Cell Focus TGLS = 4-5 ]	Bile Duct	Basophilic Focus Clear Cell Focus Hyperplasia	Minimal
* Lung	Alveolar Epith Alveolus	Inflammation Inflammation Neoplasm Nos	Chronic, Minimal Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland [ Adenoma TGLS = 2-8 ]	Pars Distalis	Adenoma	
* Prostate		Hyperplasia Inflammation	Minimal Chronic Active, Mild
* Skin	Subcut Tiss	Hyperkeratosis Lipoma	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 217	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27610

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Hyperkeratosis TGLS = 1-11 ]			
[ Lipoma TGLS = 3-13 ]			
* Spleen		Fibrosis	Mild
[ Fibrosis TGLS = 5-12 ]			
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 6-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

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PRIMARY CAUSE OF DEATH	-
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 218

TRT#: 3

SEX: Male

DAY ON TEST: 617

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27611

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Brain                    | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    |
| * Mammary Gland          | * Parathyroid Gland        | * Preputial Gland         | * Prostate                  |
| * Seminal Vesicle        | * Stomach, Forestomach     | * Stomach, Glandular      | * Thyroid Gland             |
| * Trachea                | * Urinary Bladder          |                           |                             |

OBSERVATIONS

- |  |                |                      |                 |
|--|----------------|----------------------|-----------------|
| * Adrenal Cortex   |                | Hyperplasia          | Minimal         |
|  |                | Leukemia Mononuclear |                 |
| [ Leukemia Mononuclear TGLS = 1-7 ]                          |                |                      |                 |
| * Adrenal Medulla  |                | Hyperplasia          | Mild            |
|  |                | Leukemia Mononuclear |                 |
| * Bone Marrow  |                | Leukemia Mononuclear |                 |
| * Brain  |                |                      |                 |
| Note: Cerebral "dilatation" was secondary to pituitary mass. |                |                      |                 |
| * Heart  |                | Cardiomyopathy       | Mild            |
| * Kidney   |                | Leukemia Mononuclear |                 |
|  |                | Nephropathy          | Moderate        |
| * Liver  |                | Basophilic Focus     |                 |
|  |                | Degeneration         | Fatty, Moderate |
|  |                | Eosinophilic Focus   |                 |
|  | Bile Duct      | Hyperplasia          | Moderate        |
|  |                | Leukemia Mononuclear |                 |
| * Lung   | Alveolar Epith | Hyperplasia          | Mild            |
|  |                | Leukemia Mononuclear |                 |
| Lymph Node   | Pancreatic     | Leukemia Mononuclear |                 |
| [ Leukemia Mononuclear TGLS = 5-12 ]                         |                |                      |                 |
| * Lymph Node, Bronchial                                      |                | Leukemia Mononuclear |                 |
| [ Leukemia Mononuclear TGLS = 1-7 ]                          |                |                      |                 |
| * Lymph Node, Mandibular                                     |                | Leukemia Mononuclear |                 |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 218                      **TRT#:** 3                      **SEX:** Male                      **DAY ON TEST:** 617  
**DOSE:** 10 MG/M3                      **DISP:** Moribund Sacrifice                      **HISTO:** 27611

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 1-7 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-2 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration Inflammation	Hyaline, Minimal Suppurative, Moderate
* Pancreas		Leukemia Mononuclear Atrophy	Moderate
[ Leukemia Mononuclear TGLS = 5-12 ]			
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
[ Adenoma TGLS = 3-8 ]			
* Salivary Glands		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-8 ]			
* Skin		Inflammation	Chronic Active, Moderate
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-11 ]			
* Testes	Interstit Cell	Hyperplasia	Minimal
* Thymus		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear  
CONTRIBUTORY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma;Salivary Glands Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 219

TRT#: 3

DOSE: 10 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 553

HISTO: 27612

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Mandibular	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-2 ]			
* Brain		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-2 ]			
* Epididymis		Mesothelioma Benign	
[ Mesothelioma Benign TGLS = 2-2 ]			
* Heart		Cardiomyopathy	Moderate
[ Leukemia Mononuclear TGLS = 1-13 ]		Leukemia Mononuclear	
* Kidney		Infarct	Moderate
[ Infarct TGLS = 8-5 ]		Leukemia Mononuclear	
* Liver		Nephropathy	Mild
[ Leukemia Mononuclear TGLS = 7-4 ]		Degeneration	Fatty, Mild
	Bile Duct	Hyperplasia	Mild
	Centrilobular	Leukemia Mononuclear	
		Necrosis	Minimal
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>ANIMAL ID:</b> 219	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 553
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27612

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 9-12 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 6-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
* Pituitary Gland		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-14 ]			
* Skin		Inflammation	Chronic Active, Mild
		Keratoacanthoma	
[ Keratoacanthoma TGLS = 5-15 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-11 ]			
* Stomach, Glandular		Leukemia Mononuclear	
		Necrosis	Moderate
[ Leukemia Mononuclear TGLS = 9-12 ]			
[ Necrosis TGLS = 9-12 ]			
* Testes	Interstit Cell	Adenoma	
		Mesothelioma Benign	
[ Adenoma TGLS = 3-7 ]			
[ Mesothelioma Benign TGLS = 2-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 220

TRT#: 3

SEX: Male

DAY ON TEST: 735

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27613

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Brain                    | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Mammary Gland           | * Preputial Gland           |
| * Salivary Glands        | * Seminal Vesicle          | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Trachea                  | * Urinary Bladder         |                             |

OBSERVATIONS

- |   |            |                      |                  |
|---|------------|----------------------|------------------|
| * Adrenal Cortex                          |            | Leukemia Mononuclear |                  |
| * Adrenal Medulla                         |            | Hyperplasia          | Mild             |
|   |            | Leukemia Mononuclear |                  |
| * Bone Marrow                             |            | Leukemia Mononuclear |                  |
| [ Leukemia Mononuclear TGLS = 9-12 ]      |            |                      |                  |
| * Heart                                   |            | Cardiomyopathy       | Mild             |
| * Islets, Pancreatic                      |            | Hyperplasia          | Moderate         |
| * Kidney                                  |            | Leukemia Mononuclear |                  |
| [ Nephropathy TGLS = 11-5 ]               |            | Nephropathy          | Marked           |
| * Larynx                                  | Epiglottis | Metaplasia           | Squamous, Mild   |
| * Liver                                   |            | Angiectasis          | Minimal          |
|   |            | Cyst                 | Mild             |
|   |            | Degeneration         | Cystic, Moderate |
|   | Bile Duct  | Hyperplasia          | Mild             |
| [ Cyst TGLS = 9,10-13+4 ]                 |            | Leukemia Mononuclear |                  |
| [ Leukemia Mononuclear TGLS = 8-4 ]       |            |                      |                  |
| * Lung                                    |            | Leukemia Mononuclear |                  |
| [ Leukemia Mononuclear TGLS = 9,10-13+4 ] |            |                      |                  |
| Lymph Node                                | Pancreatic | Leukemia Mononuclear |                  |
| * Lymph Node, Bronchial                   |            | Leukemia Mononuclear |                  |
| * Lymph Node, Mandibular                  |            | Leukemia Mononuclear |                  |
| * Lymph Node, Mediastinal                 |            | Leukemia Mononuclear |                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 220

TRT#: 3

SEX: Male

DAY ON TEST: 735

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27613

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Lymph Node, Mesenteric		Leukemia Mononuclear	
Mesentery	Fat	Necrosis	Moderate
[ Necrosis TGLS = 4-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Moderate
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 5-8 ]			
* Prostate		Hyperplasia	Minimal
* Skin		Inflammation	Chronic Active, Moderate
[ Inflammation TGLS = 1-7+14 ]			
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
[ Fibrosis TGLS = 7-12 ]			
[ Leukemia Mononuclear TGLS = 6-12 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-7 ]			
* Thyroid Gland	Bilateral, C Cell	Adenoma	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 221

TRT#: 3

SEX: Male

DAY ON TEST: 485

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27614

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	

MISSING

* Lymph Node, Mediastinal	* Mammary Gland
---------------------------	-----------------

OBSERVATIONS

* Brain		Meningioma Malignant	
Note: The neoplasm involved cerebellum, adjacent bone, and skeletal muscle.			
[ Meningioma Malignant TGLS = 1,2,3-12+11+13+14 ]			
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Clear Cell Focus	
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 4-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
* Testes	Interstit Cell	Adenoma	

PRIMARY CAUSE OF DEATH - Brain Meningioma Malignant

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 222

TRT#: 3

SEX: Male

DAY ON TEST: 735

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27615

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Minimal
* Adrenal Medulla	Bilateral	Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 4-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
	Bile Duct	Hyperplasia	Mild
[ Basophilic Focus TGLS = 4-5 ]			
[ Clear Cell Focus TGLS = 4-5 ]			
* Lung	Alveolar Epith	Hyperplasia	Mild
[ Hyperplasia TGLS = 6-3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Spleen		Accessory Spleen	
[ Accessory Spleen TGLS = 3-11 ]			
* Testes	Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 222	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27615

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 2-12 ]		Atrophy	Moderate
[ Atrophy TGLS = 5-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 223

TRT#: 3

SEX: Male

DAY ON TEST: 735

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27616

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Larynx	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Parathyroid Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Minimal
* Islets, Pancreatic		Adenoma	
		Carcinoma	
[ Carcinoma TGLS = 5-12 ]			
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 3-5 ]			
* Liver		Degeneration	Cystic, Moderate
	Bile Duct	Hyperplasia	Minimal
* Lung			
Note: There was no microscopic finding to account for the "pale focus" described at necropsy.			
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Preputial Gland		Adenoma	
		Inflammation	Chronic Active, Marked
[ Adenoma TGLS = 1-11 ]			
[ Inflammation TGLS = 1-11 ]			
* Testes	Artery	Inflammation	Chronic Active, Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 224

TRT#: 3

SEX: Male

DAY ON TEST: 735

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27617

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Mammary Gland	* Nose	* Parathyroid Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Minimal
* Adrenal Medulla	Bilateral	Pheochromocytoma Benign	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
* Kidney	Renal Tubule	Hyperplasia	Moderate
		Leukemia Mononuclear	
		Nephropathy	Marked
[ Nephropathy TGLS = 7-5 ]			
* Liver	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-4 ]			
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Pancreas		Atrophy	Marked
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Preputial Gland		Carcinoma	
[ Carcinoma TGLS = 1-12 ]			
* Spleen		Fibrosis	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 224	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27617

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibrosis TGLS = 5-4 ]		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-11 ]			
* Testes	Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 225

TRT#: 3

SEX: Male

DAY ON TEST: 735

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27618

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Bronchial	* Thymus
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Mild
* Kidney	Renal Tubule	Hyperplasia	Marked
		Nephropathy	Marked
	[ Nephropathy TGLS = 5-5 ]		
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Degeneration	Cystic, Mild
		Degeneration	Fatty, Minimal
		Eosinophilic Focus	
		Hepatocellular Carcinoma	
	Bile Duct	Hyperplasia	Minimal
	[ Hepatocellular Carcinoma TGLS = 4-11 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Minimal
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 225

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 735

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27618

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 1-8 ]

\* Preputial Gland

Adenoma

[ Adenoma TGLS = 2-7 ]

\* Testes

Bilateral, Interstit Cell

Adenoma

[ Adenoma TGLS = 3-12 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 226

TRT#: 3

SEX: Male

DAY ON TEST: 534

DOSE: 10 MG/M3

DISP: Natural Death

HISTO: 27619

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Intestine Small, Duodenum
* Islets, Pancreatic	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

* Mammary Gland	* Thymus
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AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Ileum
* Intestine Small, Jejunum			

OBSERVATIONS

* Heart		Cardiomyopathy	Moderate
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Degeneration	Fatty, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	

[ Adenoma TGLS = 1-8 ]

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 227

TRT#: 3

SEX: Male

DAY ON TEST: 473

DOSE: 10 MG/M3

DISP: Natural Death

HISTO: 27620

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                           |                          |                           |
|--------------------------|---------------------------|--------------------------|---------------------------|
| * Adrenal Cortex         | * Adrenal Medulla         | * Bone                   | * Bone Marrow             |
| * Brain                  | * Epididymis              | * Esophagus              | * Intestine Large, Rectum |
| * Islets, Pancreatic     | * Larynx                  | * Lung                   | * Lymph Node, Bronchial   |
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric | * Mammary Gland           |
| * Pancreas               | * Preputial Gland         | * Prostate               | * Salivary Glands         |
| * Seminal Vesicle        | * Skin                    | * Spleen                 | * Stomach, Forestomach    |
| * Stomach, Glandular     | * Testes                  | * Thymus                 | * Thyroid Gland           |
| * Trachea                | * Urinary Bladder         |                          |                           |

MISSING

- \* Parathyroid Gland

AUTO PRECLUDES DIAG.

- |                            |                          |                             |                          |
|----------------------------|--------------------------|-----------------------------|--------------------------|
| * Intestine Large, Cecum   | * Intestine Large, Colon | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Nose                   |                             |                          |

OBSERVATIONS

- |  |               |                |         |
|--|---------------|----------------|---------|
| * Heart  |               | Cardiomyopathy | Mild    |
| * Kidney   |               | Nephropathy    | Mild    |
| * Liver  | Bile Duct     | Hyperplasia    | Minimal |
| * Lung   |               |                |         |
| Note: Lungs were "dark red" due to post mortem pooling of blood. |               |                |         |
| * Pituitary Gland  | Pars Distalis | Adenoma        |         |
| [ Adenoma TGLS = 2-8 ]   |               |                |         |

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 228

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 735

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27621

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Larynx	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Skin	* Trachea	

**MISSING**

\* Mammary Gland

**OBSERVATIONS**

* Adrenal Cortex		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Adrenal Medulla		Leukemia Mononuclear	
	Bilateral	Pheochromocytoma Benign	
[ Leukemia Mononuclear TGLS = 1-7 ]			
[ Pheochromocytoma Benign TGLS = 16-5 ]			
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-8 ]			
* Brain		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-8 ]			
* Heart		Cardiomyopathy	Moderate
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-8 ]			
* Islets, Pancreatic		Adenoma	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
[ Leukemia Mononuclear TGLS = 14,15-5 ]			
* Liver		Basophilic Focus	
		Degeneration	Cystic, Moderate
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
[ Basophilic Focus TGLS = 12-4 ]			
[ Leukemia Mononuclear TGLS = 10,11,13-4+11+12 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 228

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 735

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27621

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-3+3A ]			
Lymph Node	Iliac	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	
		Leukemia Mononuclear	
Note: Lymph node with no site specified was axillary.			
[ Leukemia Mononuclear TGLS = 17-17 ]			
[ Leukemia Mononuclear TGLS = 18-18 ]			
[ Leukemia Mononuclear TGLS = 5-16 ]			
[ Leukemia Mononuclear TGLS = 9-13+15 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-2 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 19-6+15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
		Thrombosis	Minimal
* Pancreas		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 18-18 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
[ Adenoma TGLS = 2-8 ]			
[ Leukemia Mononuclear TGLS = 18-18 ]			
* Prostate		Inflammation	Chronic Active, Marked
[ Inflammation TGLS = 20-19 ]			
* Seminal Vesicle		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 228

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 735

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27621

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 20-19 ]			
* Spleen		Fibrosis Leukemia Mononuclear	Mild
[ Fibrosis TGLS = 8-14 ]			
[ Leukemia Mononuclear TGLS = 7-13 ]			
* Stomach, Forestomach		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 16-5 ]			
* Stomach, Glandular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 16-5 ]			
* Testes	Interstit Cell	Adenoma	
[ Adenoma TGLS = 6-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Urinary Bladder		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	- Heart	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 229      **TRT#:** 3      **SEX:** Male      **DAY ON TEST:** 520  
**DOSE:** 10 MG/M3      **DISP:** Moribund Sacrifice      **HISTO:** 27622

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Lymph Node, Bronchial	* Mammary Gland	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

**OBSERVATIONS**

* Adrenal Cortex		Necrosis	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-2 ]			
* Heart		Cardiomyopathy	Moderate
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
* Lung	Alveolar Epith	Hyperplasia	Marked
		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-12 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Thrombosis	Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
[ Hyperplasia TGLS = 1-8 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 229

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 520

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27622

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Prostate		Inflammation	Chronic Active, Marked
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-11 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 4-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 230

TRT#: 3

SEX: Male

DAY ON TEST: 520

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27623

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex          | * Bone                      | * Bone Marrow            | * Brain                    |
| * Epididymis              | * Esophagus                 | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Liver                     | * Lung                   | * Lymph Node, Bronchial    |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Pancreas               | * Parathyroid Gland        |
| * Prostate                | * Salivary Glands           | * Seminal Vesicle        | * Skin                     |
| * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     | * Thymus                   |
| * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |                            |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |   |                           |                            |                        |
|---|---------------------------|----------------------------|------------------------|
| * Adrenal Medulla   |                           | Hyperplasia                | Minimal                |
| * Heart   |                           | Cardiomyopathy             | Minimal                |
| * Kidney  |                           | Nephropathy                | Mild                   |
| * Larynx  | Epiglottis                | Metaplasia                 | Squamous, Minimal      |
| * Lung  |                           |                            |                        |
| Note: "Pale" cardiac lobe noted at necropsy was within normal limits microscopically. |                           |                            |                        |
| * Lymph Node, Mandibular  |                           | Infiltration Cellular      | Plasma Cell, Marked    |
| [ Infiltration Cellular TGLS = 1-12 ]   |                           |                            |                        |
| * Nose  | Olfactory Epi             | Degeneration               | Hyaline, Minimal       |
| * Pituitary Gland   | Pars Distalis             | Hyperplasia                | Mild                   |
| * Preputial Gland   |                           | Inflammation               | Chronic Active, Marked |
| [ Inflammation TGLS = 4-7+11 ]  |                           |                            |                        |
| * Testes  | Bilateral, Interstit Cell | Adenoma                    |                        |
| [ Adenoma TGLS = 5-7 ]  |                           |                            |                        |
| Tooth   |                           | Developmental Malformation |                        |
| [ Developmental Malformation TGLS = 5-7 ]   |                           |                            |                        |

PRIMARY CAUSE OF DEATH

- UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 231

TRT#: 3

SEX: Male

DAY ON TEST: 653

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27624

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Parathyroid Gland
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Thymus	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Adrenal Medulla		Hyperplasia	Mild
		Pheochromocytoma Benign	
* Epididymis		Mesothelioma Benign	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 3-5+11 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Degeneration	Cystic, Minimal
[ Basophilic Focus TGLS = 3-5+11 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
* Lym Node Mesen			
Note: "Enlarged" mesenteric lymph node was within normal limits microscopically.			
Lymph Node	Renal	Hemorrhage	Mild
[ Hemorrhage TGLS = 4-13 ]			
* Mammary Gland		Galactocele	Moderate
[ Galactocele TGLS = 1-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

---

**ANIMAL ID:** 231

**TRT#:** 3

**DOSE:** 10 MG/M3

**SEX:** Male

**DISP:** Moribund Sacrifice

**DAY ON TEST:** 653

**HISTO:** 27624

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

* Prostate		Inflammation	Chronic Active, Moderate
* Stomach, Glandular		Mineralization	Mild
* Testes		Mesothelioma Benign	
* Thyroid Gland	Bilateral, C Cell C Cell	Adenoma Hyperplasia	Moderate

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Kidney Nephropathy;Liver Basophilic Focus

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 232

TRT#: 3

DOSE: 10 MG/M3

SEX: Male

DISP: Natural Death

DAY ON TEST: 675

HISTO: 27625

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

\* Adrenal Medulla  
\* Epididymis  
\* Islets, Pancreatic  
\* Pancreas  
\* Salivary Glands  
\* Stomach, Glandular  
\* Urinary Bladder

\* Bone  
\* Esophagus  
\* Lymph Node, Bronchial  
\* Parathyroid Gland  
\* Seminal Vesicle  
\* Testes

\* Bone Marrow  
\* Intestine Large, Rectum  
\* Lymph Node, Mandibular  
\* Preputial Gland  
\* Skin  
\* Thymus

\* Brain  
\* Intestine Small, Jejunum  
\* Lymph Node, Mediastinal  
\* Prostate  
\* Stomach, Forestomach  
\* Trachea

AUTO PRECLUDES DIAG.

\* Intestine Large, Cecum  
\* Larynx

\* Intestine Large, Colon

\* Intestine Small, Duodenum

\* Intestine Small, Ileum

OBSERVATIONS

\* Adrenal Cortex  
\* Heart  
\* Kidney

Hyperplasia  
Cardiomyopathy  
Adenoma  
Nephropathy

Minimal  
Moderate  
Marked

Note: Adenoma is oncocytoma.

\* Liver

Bile Duct

Basophilic Focus  
Degeneration  
Hyperplasia  
Leukemia Mononuclear  
Alveolar/Bronchiolar Carcinoma

Cystic, Mild  
Mild

\* Lung

[ Alveolar/Bronchiolar Carcinoma TGLS = 2-11+3 ]

\* Lymph Node, Mesenteric

[ Ectasia TGLS = 5-14 ]

\* Mammary Gland

[ Galactocoele TGLS = 4-15 ]

\* Nose

Olfactory Epi

\* Pituitary Gland

Pars Distalis

Degeneration  
Adenoma

Hyaline, Mild

\* Spleen

Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

---

**ANIMAL ID:** 232

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 675

**DOSE:** 10 MG/M3

**DISP:** Natural Death

**HISTO:** 27625

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Leukemia Mononuclear TGLS = 3-8 ]

\* Thyroid Gland

Follicular Cel

Adenoma

[ Adenoma TGLS = 1-2 ]

---

PRIMARY CAUSE OF DEATH

- Lung Alveolar/Bronchiolar Carcinoma

CONTRIBUTORY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma;Spleen Leukemia Mononuclear

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 233

TRT#: 3

SEX: Male

DAY ON TEST: 590

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27626

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                           |                        |                 |
|--------------------------|---------------------------|------------------------|-----------------|
| * Bone                   | * Brain                   | * Epididymis           | * Esophagus     |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Islets, Pancreatic   | * Larynx        |
| * Pancreas               | * Parathyroid Gland       | * Preputial Gland      | * Prostate      |
| * Salivary Glands        | * Seminal Vesicle         | * Stomach, Forestomach | * Thyroid Gland |
| * Trachea                | * Urinary Bladder         |                        |                 |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                             |   |                      |             |
|-----------------------------|---|----------------------|-------------|
| * Adrenal Cortex            |   | Hyperplasia          | Mild        |
|                             |   | Leukemia Mononuclear |             |
| * Adrenal Medulla           |   | Leukemia Mononuclear |             |
| * Bone Marrow               |   | Leukemia Mononuclear |             |
| * Heart                     |   | Leukemia Mononuclear |             |
| * Intestine Large, Cecum    |   | Leukemia Mononuclear |             |
| * Intestine Small, Duodenum |   | Leukemia Mononuclear |             |
| * Intestine Small, Ileum    |   | Leukemia Mononuclear |             |
| * Intestine Small, Jejunum  |   | Leukemia Mononuclear |             |
| * Kidney                    |   | Leukemia Mononuclear |             |
|                             |   | Nephropathy          | Mild        |
| * Liver                     |   | Degeneration         | Fatty, Mild |
|                             | Bile Duct                               | Hyperplasia          | Mild        |
|                             |   | Leukemia Mononuclear |             |
|                             | Centrilobular                           | Necrosis             | Mild        |
|                             | [ Leukemia Mononuclear TGLS = 7-4 ]     |                      |             |
| * Lung                      |   | Hemorrhage           | Mild        |
|                             |   | Leukemia Mononuclear |             |
|                             | [ Hemorrhage TGLS = 3-11 ]              |                      |             |
| Lymph Node                  | Pancreatic                              | Leukemia Mononuclear |             |
|                             | [ Leukemia Mononuclear TGLS = 8-12+14 ] |                      |             |
| * Lymph Node, Bronchial     |   | Leukemia Mononuclear |             |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 233

TRT#: 3

SEX: Male

DAY ON TEST: 590

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27626

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-2 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
		Thrombosis	Mild
[ Leukemia Mononuclear TGLS = 5-7 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-12+14 ]			
* Skin		Inflammation	Chronic Active, Mild
[ Inflammation TGLS = 4-15 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-12 ]			
* Stomach, Glandular		Leukemia Mononuclear	
		Necrosis	Moderate
[ Necrosis TGLS = 9-8+13 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 5-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-7 ]			

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 234

TRT#: 3

SEX: Male

DAY ON TEST: 553

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27627

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Parathyroid Gland	* Pituitary Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-12 ]			
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-2 ]			
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-12 ]			
* Lymph Node, Mandibular		Infiltration Cellular	Plasma Cell, Marked
		Leukemia Mononuclear	
[ Infiltration Cellular TGLS = 1-12 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Moderate
* Prostate		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

---

**ANIMAL ID:** 234

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 553

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27627

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Spleen

[ Leukemia Mononuclear TGLS = 2-11 ]

Leukemia Mononuclear

\* Testes

Interstit Cell

Hyperplasia

Mild

Tooth

Inflammation

Chronic Active, Moderate

---

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH

- Tooth Inflammation

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 235

TRT#: 3

DOSE: 10 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 716

HISTO: 27628

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Brain	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Preputial Gland
* Prostate	* Salivary Glands	* Trachea	* Urinary Bladder

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Leukemia Mononuclear	
* Bone	Bilateral	Leukemia Mononuclear	
[ Osteosarcoma TGLS = 10-11+18 ]		Pheochromocytoma Benign	
* Bone Marrow		Osteosarcoma	
* Heart		Leukemia Mononuclear	
* Kidney		Cardiomyopathy	Mild
[ Nephropathy TGLS = 9-5 ]		Leukemia Mononuclear	
* Liver		Nephropathy	Moderate
	Bile Duct	Degeneration	Cystic, Mild
[ Hyperplasia TGLS = 7-4 ]		Hyperplasia	Moderate
[ Leukemia Mononuclear TGLS = 8-4 ]		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-4 ]		Osteosarcoma	Metastatic (Bone)
[ Osteosarcoma TGLS = 1,2,3-14+15+13 ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 235

TRT#: 3

SEX: Male

DAY ON TEST: 716

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27628

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
Mesentery	Fat	Hemorrhage	Mild
[ Hemorrhage TGLS = 11-17 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
* Pancreas		Atrophy	Moderate
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-17 ]			
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
		Leukemia Mononuclear	
* Seminal Vesicle		Leukemia Mononuclear	
* Skin		Keratoacanthoma	
[ Keratoacanthoma TGLS = 4-19 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-16 ]			
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Mild
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 5-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH - Bone Osteosarcoma

CONTRIBUTORY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 236

TRT#: 3

SEX: Male

DAY ON TEST: 501

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27629

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Brain	* Esophagus
* Intestine Large, Cecum	* Intestine Small, Duodenum	* Islets, Pancreatic	* Larynx
* Mammary Gland	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Thyroid Gland
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Mild
* Bone Marrow		Leukemia Mononuclear	
* Epididymis		Mesothelioma Benign	
* Heart		Leukemia Mononuclear	
* Intestine Large, Colon		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-14 ]			
* Intestine Large, Rectum		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-14 ]			
* Intestine Small, Ileum		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-14 ]			
* Intestine Small, Jejunum		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-14 ]			
* Kidney	Renal Tubule	Hyperplasia	Mild
		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-4 ]			
* Lung		Hemorrhage	Mild
	Alveolar Epith	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Hemorrhage TGLS = 1-3A ]			
[ Leukemia Mononuclear TGLS = 4-4 ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 236

TRT#: 3

SEX: Male

DAY ON TEST: 501

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27629

ORGAN AND ACCOUNTABLE SITE STATUS

[ Leukemia Mononuclear TGLS = 8-14 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-14 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-2 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-14 ]			
* Nose	Olfactory Epi	Degeneration Leukemia Mononuclear Thrombosis	Hyaline, Minimal  Mild
[ Leukemia Mononuclear TGLS = 10-7 ]			
* Pancreas		Leukemia Mononuclear	
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
[ Adenoma TGLS = 3-8 ]			
* Spleen		Hemorrhage Leukemia Mononuclear	Marked
[ Hemorrhage TGLS = 6-11 ]			
[ Leukemia Mononuclear TGLS = 5-11 ]			
* Stomach, Forestomach		Necrosis	Mild
[ Necrosis TGLS = 11-12 ]			
* Stomach, Glandular		Necrosis	Moderate
[ Necrosis TGLS = 12-13 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 10-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-7 ]			

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 237

TRT#: 3

DOSE: 10 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 553

HISTO: 27630

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Epididymis               | * Esophagus               | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mediastinal   |
| * Pancreas               | * Parathyroid Gland        | * Preputial Gland         | * Prostate                  |
| * Salivary Glands        | * Seminal Vesicle          | * Skin                    | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                   | * Thyroid Gland           | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |   |                      |                  |
|---|----------------------|------------------|
| * Adrenal Cortex  | Leukemia Mononuclear |                  |
| * Adrenal Medulla   | Hyperplasia          | Minimal          |
|   | Leukemia Mononuclear |                  |
| * Bone Marrow   | Leukemia Mononuclear |                  |
| [ Leukemia Mononuclear TGLS = 2-2 ]                             |                      |                  |
| * Brain   | Leukemia Mononuclear |                  |
| Note: "Dilatation" of cerebrum was secondary to pituitary mass. |                      |                  |
| [ Leukemia Mononuclear TGLS = 2-2 ]                             |                      |                  |
| * Kidney  | Leukemia Mononuclear |                  |
|   | Nephropathy          | Moderate         |
| * Larynx  | Hyperplasia          | Minimal          |
| * Liver   | Degeneration         | Fatty, Mild      |
|   | Leukemia Mononuclear |                  |
| [ Degeneration TGLS = 6-4 ]                                     |                      |                  |
| * Lung  | Leukemia Mononuclear |                  |
| [ Leukemia Mononuclear TGLS = 6-4 ]                             |                      |                  |
| * Lymph Node, Bronchial   | Leukemia Mononuclear |                  |
| * Lymph Node, Mandibular  | Leukemia Mononuclear |                  |
| * Lymph Node, Mesenteric  | Leukemia Mononuclear |                  |
| * Nose  | Olfactory Epi        | Hyaline, Minimal |
|   | Degeneration         |                  |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 237	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 553
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27630

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
[ Adenoma TGLS = 1-8 ] [ Leukemia Mononuclear TGLS = 6-4 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-11 ]			
* Testes		Atrophy	Marked
[ Atrophy TGLS = 4-7 ]			

---

PRIMARY CAUSE OF DEATH	- Pituitary Gland Pars Distalis Adenoma
CONTRIBUTORY CAUSE OF DEATH	- Spleen Leukemia Mononuclear

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 238

TRT#: 3

SEX: Male

DAY ON TEST: 436

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27631

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Stomach, Forestomach	* Testes	* Trachea	* Urinary Bladder

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6+15 ]			
* Adrenal Medulla		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6+15 ]			
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
* Intestine Small, Ileum		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6+15 ]			
* Intestine Small, Jejunum		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6+15 ]			
* Islets, Pancreatic		Hyperplasia	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-16 ]			
[ Leukemia Mononuclear TGLS = 5-17 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>ANIMAL ID:</b> 238	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 436
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27631

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 7-6+15 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6+15 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6+15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
* Pancreas		Atrophy	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-17 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Skin		Inflammation	Granulomatous, Mild
* Spleen		Hemorrhage	Moderate
		Leukemia Mononuclear	
[ Hemorrhage TGLS = 3,4,8-12+13+14 ]			
[ Leukemia Mononuclear TGLS = 2-11 ]			
* Stomach, Glandular		Leukemia Mononuclear	
		Necrosis	Mild
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-11 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
<b>PRIMARY CAUSE OF DEATH</b>	- Thymus	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 239

TRT#: 3

SEX: Male

DAY ON TEST: 610

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27632

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Bone                     | * Epididymis              | * Esophagus                 | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Parathyroid Gland       | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Trachea                 |                             |                          |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                                     |            |                      |                |
|-------------------------------------|------------|----------------------|----------------|
| * Adrenal Cortex                    |            | Leukemia Mononuclear |                |
| * Adrenal Medulla                   |            | Hyperplasia          | Mild           |
|                                     |            | Leukemia Mononuclear |                |
| * Bone Marrow                       |            | Leukemia Mononuclear |                |
| * Brain                             |            | Leukemia Mononuclear |                |
| [ Leukemia Mononuclear TGLS = 4-1 ] |            |                      |                |
| * Heart                             |            | Leukemia Mononuclear |                |
| [ Leukemia Mononuclear TGLS = 4-1 ] |            |                      |                |
| * Islets, Pancreatic                |            | Adenoma              |                |
| [ Adenoma TGLS = 4-1 ]              |            |                      |                |
| * Kidney                            |            | Leukemia Mononuclear |                |
| [ Leukemia Mononuclear TGLS = 4-1 ] |            | Nephropathy          | Mild           |
| * Larynx                            | Epiglottis | Metaplasia           | Squamous, Mild |
| * Liver                             |            | Basophilic Focus     |                |
|                                     | Bile Duct  | Hyperplasia          | Moderate       |
|                                     |            | Leukemia Mononuclear |                |
| [ Leukemia Mononuclear TGLS = 1-4 ] |            |                      |                |
| * Lung                              |            | Leukemia Mononuclear |                |
| * Lymph Node, Bronchial             |            | Leukemia Mononuclear |                |
| * Lymph Node, Mandibular            |            | Leukemia Mononuclear |                |
| * Lymph Node, Mediastinal           |            | Leukemia Mononuclear |                |
| * Lymph Node, Mesenteric            |            | Leukemia Mononuclear |                |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 239

TRT#: 3

SEX: Male

DAY ON TEST: 610

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27632

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration Leukemia Mononuclear Thrombosis	Hyaline, Minimal Hyaline, Minimal
* Pancreas		Atrophy	Moderate Minimal
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
* Preputial Gland		Leukemia Mononuclear	
* Prostate		Leukemia Mononuclear	
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-11 ]			
* Stomach, Forestomach		Leukemia Mononuclear	
* Stomach, Glandular		Leukemia Mononuclear	
* Testes	Interstit Cell Interstit Cell	Adenoma Hyperplasia	Minimal
[ Adenoma TGLS = 3-7 ]			
* Thymus		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 240

TRT#: 3

SEX: Male

DAY ON TEST: 649

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27633

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Parathyroid Gland
* Preputial Gland	* Skin	* Thyroid Gland	* Trachea

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia Leukemia Mononuclear	Mild
[ Leukemia Mononuclear TGLS = 1-15 ]			
* Adrenal Medulla		Hyperplasia Leukemia Mononuclear	Mild
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
* Heart		Cardiomyopathy Leukemia Mononuclear	Moderate
* Kidney	Transit Epithe	Hyperplasia Leukemia Mononuclear Nephropathy	Minimal Mild
[ Leukemia Mononuclear TGLS = 8,9-5+13 ]			
* Liver	Bile Duct	Hyperplasia Leukemia Mononuclear	Moderate
[ Leukemia Mononuclear TGLS = 5-4 ]			
* Lung	Iliac	Leukemia Mononuclear	
Lymph Node	Renal	Leukemia Mononuclear Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 12-19 ]			
[ Leukemia Mononuclear TGLS = 11-18 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-15 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 240

TRT#: 3

SEX: Male

DAY ON TEST: 649

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27633

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Lymph Node, Mandibular [ Leukemia Mononuclear TGLS = 1-15 ]		Leukemia Mononuclear	
* Lymph Node, Mediastinal [ Leukemia Mononuclear TGLS = 14-8+16 ]		Leukemia Mononuclear	
* Lymph Node, Mesenteric [ Leukemia Mononuclear TGLS = 13-14 ]		Leukemia Mononuclear	
* Nose [ Leukemia Mononuclear TGLS = 3-11 ]	Olfactory Epi	Degeneration Leukemia Mononuclear	Hyaline, Mild
* Pancreas [ Leukemia Mononuclear TGLS = 12-19 ]		Leukemia Mononuclear	
* Pituitary Gland [ Adenoma TGLS = 4-8 ] [ Leukemia Mononuclear TGLS = 12-19 ]	Pars Distalis	Adenoma Leukemia Mononuclear	
* Prostate [ Leukemia Mononuclear TGLS = 4-8 ]		Leukemia Mononuclear	
* Salivary Glands [ Leukemia Mononuclear TGLS = 4-8 ]		Leukemia Mononuclear	
* Seminal Vesicle [ Leukemia Mononuclear TGLS = 10-17 ]		Leukemia Mononuclear	
* Spleen [ Fibrosis TGLS = 7-12 ] [ Leukemia Mononuclear TGLS = 6-12 ]		Fibrosis Leukemia Mononuclear	Moderate
* Stomach, Forestomach [ Leukemia Mononuclear TGLS = 14-8+16 ]		Leukemia Mononuclear	
* Stomach, Glandular [ Leukemia Mononuclear TGLS = 14-8+16 ]		Leukemia Mononuclear	
* Testes [ Leukemia Mononuclear TGLS = 14-8+16 ]	Interstit Cell	Hyperplasia Leukemia Mononuclear	Mild
* Thymus		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 240

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 649

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27633

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 3-11 ]

\* Urinary Bladder

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 3-11 ]

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PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma;Prostate Leukemia Mononuclear;Salivary Glands Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 241

TRT#: 3

SEX: Male

DAY ON TEST: 581

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27634

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Brain                    | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Mammary Gland             |
| * Parathyroid Gland      | * Prostate                 | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Trachea                | * Urinary Bladder          |                           |                             |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |   |               |                      |                  |
|---|---------------|----------------------|------------------|
| * Adrenal Cortex                          |               | Leukemia Mononuclear |                  |
| * Adrenal Medulla                         |               | Leukemia Mononuclear |                  |
| * Bone Marrow                             |               | Leukemia Mononuclear |                  |
| [ Leukemia Mononuclear TGLS = 14-8+16 ]   |               |                      |                  |
| * Heart                                   | Atrium        | Thrombosis           | Mild             |
| * Kidney                                  |               | Leukemia Mononuclear |                  |
|   |               | Nephropathy          | Mild             |
| * Larynx                                  | Epiglottis    | Hyperplasia          | Minimal          |
| * Liver                                   |               | Eosinophilic Focus   |                  |
|   | Bile Duct     | Hyperplasia          | Mild             |
|   |               | Leukemia Mononuclear |                  |
| * Lung                                    |               | Leukemia Mononuclear |                  |
| [ Leukemia Mononuclear TGLS = 1-3+3A+11 ] |               |                      |                  |
| Lymph Node                                | Pancreatic    | Leukemia Mononuclear |                  |
|   | Renal         | Leukemia Mononuclear |                  |
| [ Leukemia Mononuclear TGLS = 5-13 ]      |               |                      |                  |
| [ Leukemia Mononuclear TGLS = 6-14 ]      |               |                      |                  |
| * Lymph Node, Mandibular                  |               | Leukemia Mononuclear |                  |
| * Lymph Node, Mediastinal                 |               | Leukemia Mononuclear |                  |
| * Lymph Node, Mesenteric                  |               | Leukemia Mononuclear |                  |
| * Nose                                    | Olfactory Epi | Degeneration         | Hyaline, Minimal |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 241

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 581

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27634

**ORGAN AND ACCOUNTABLE SITE STATUS**

		Inflammation	Suppurative, Mild
		Leukemia Mononuclear	
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
[ Hyperplasia TGLS = 8-8 ]			
* Preputial Gland		Inflammation	Chronic Active, Mild
* Spleen		Leukemia Mononuclear	
		Necrosis	Mild
[ Leukemia Mononuclear TGLS = 3-12 ]			
[ Necrosis TGLS = 4-12 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 242

TRT#: 3

DOSE: 10 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 693

HISTO: 27635

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Bronchial	* Mammary Gland
-------------------------	-----------------

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Moderate
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Moderate
* Kidney		Leukemia Mononuclear	
		Nephropathy	Marked
[ Nephropathy TGLS = 9-5 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Degeneration	Cystic, Mild
		Degeneration	Fatty, Mild
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Minimal
[ Leukemia Mononuclear TGLS = 10-4 ]			
* Lung	Alveolar Epith	Hyperplasia	Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-4 ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-11 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
Mesentery	Fat	Necrosis	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>ANIMAL ID:</b> 242	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 693
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27635

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Necrosis TGLS = 2-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
[ Adenoma TGLS = 8-8 ]			
* Preputial GI			
Note: "Enlarged" preputial gland was dilated duct filled with normal secretion.			
* Prostate		Hyperplasia	Moderate
* Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
[ Fibrosis TGLS = 6-11 ]			
[ Leukemia Mononuclear TGLS = 7-11 ]			
* Stomach, Glandular		Mineralization	Minimal
* Testes	Interstit Cell	Adenoma	
		Atrophy	Moderate
[ Adenoma TGLS = 3-13 ]			
[ Atrophy TGLS = 4-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-13 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH	- Pituitary Gland Pars Distalis Adenoma
CONTRIBUTORY CAUSE OF DEATH	- Kidney Nephropathy;Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 243

TRT#: 3

SEX: Male

DAY ON TEST: 622

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27636

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Parathyroid Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Moderate
* Adrenal Medulla	Bilateral	Pheochromocytoma Benign	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Minimal
	Atrium	Thrombosis	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
* Lung	Centrilobular	Necrosis	Minimal
		Hemorrhage	Mild
		Leukemia Mononuclear	
		[ Hemorrhage TGLS = 1-11 ]	
Lymph Node	Iliac	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 7-17 ]	
		[ Leukemia Mononuclear TGLS = 6-16 ]	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 243

TRT#: 3

SEX: Male

DAY ON TEST: 622

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27636

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
		Thrombosis	Mild
[ Leukemia Mononuclear TGLS = 3-7 ]			
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
		Leukemia Mononuclear	
* Preputial Gland		Carcinoma	
[ Carcinoma TGLS = 2-14+15 ]			
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
[ Fibrosis TGLS = 5-13 ]			
[ Leukemia Mononuclear TGLS = 4-13 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-7 ]			

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 244

TRT#: 3

SEX: Male

DAY ON TEST: 735

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27637

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Mammary Gland	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Thyroid Gland
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Mild
* Bone Marrow		Hemangiosarcoma	
* Heart		Cardiomyopathy	Mild
* Kidney	Transit Epithe	Hyperplasia	Mild
		Leukemia Mononuclear	
		Nephropathy	Marked
[ Nephropathy TGLS = 8-5 ]			
* Liver		Angiectasis	Moderate
		Basophilic Focus	
		Degeneration	Cystic, Marked
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
[ Angiectasis TGLS = 9-4 ]			
[ Degeneration TGLS = 9-4+15 ]			
[ Eosinophilic Focus TGLS = 9-4 ]			
[ Leukemia Mononuclear TGLS = 8-5 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-4 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Infiltration Cellular	Plasma Cell, Marked

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 244

TRT#: 3

SEX: Male

DAY ON TEST: 735

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27637

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
Mesentery		Leukemia Mononuclear	
	Fat	Necrosis	Moderate
	[ Leukemia Mononuclear TGLS = 4-14 ]		
	[ Necrosis TGLS = 4-14 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 3-8 ]		
* Prostate		Hyperplasia	Mild
* Skin		Basal Cell Carcinoma	
		Squamous Cell Papilloma	
	[ Basal Cell Carcinoma TGLS = 2-13 ]		
	[ Squamous Cell Papilloma TGLS = 1-12 ]		
* Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
	[ Fibrosis TGLS = 7-4 ]		
	[ Leukemia Mononuclear TGLS = 6-11 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 5-7 ]		
* Thymus		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-7 ]		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 245

TRT#: 3

SEX: Male

DAY ON TEST: 692

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27638

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Thymus
* Trachea			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Vacuolization Cytoplasmic	Moderate
* Adrenal Medulla		Hyperplasia	Moderate
Blood Vessel	Aorta	Mineralization	Moderate
* Heart		Cardiomyopathy	Moderate
	Artery	Mineralization	Moderate
* Kidney		Mineralization	Moderate
	Renal Tubule	Necrosis	Moderate
		Nephropathy	Marked
	[ Nephropathy TGLS = 8-5+11 ]		
* Liver		Angiectasis	Moderate
		Basophilic Focus	
	[ Angiectasis TGLS = 9-4 ]		
	[ Basophilic Focus TGLS = 8-5+11 ]		
* Lung	Artery, Mediastinum	Mineralization	Mild
		Mineralization	Mild
Mesentery		Inflammation	Acute, Moderate
	Fat	Necrosis	Moderate
	[ Necrosis TGLS = 7-14 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 245

TRT#: 3

SEX: Male

DAY ON TEST: 692

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27638

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pancreas		Atrophy	Minimal
* Parathyroid Gland		Hyperplasia	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Prostate		Inflammation	Chronic Active, Moderate
[ Inflammation TGLS = 5-8 ]			
Skeletal Muscle		Mineralization	Mild
[ Mineralization TGLS = 6-13 ]			
* Stomach, Glandular		Mineralization	Marked
* Testes	Artery	Inflammation	Chronic Active, Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder		Inflammation	Acute, Marked
[ Inflammation TGLS = 4-12 ]		Mineralization	Marked

PRIMARY CAUSE OF DEATH

- Liver Basophilic Focus

CONTRIBUTORY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 246

TRT#: 3

DOSE: 10 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 469

HISTO: 27639

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Bone                    | * Brain                     | * Esophagus              | * Intestine Large, Cecum   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Lymph Node, Bronchial     | * Lymph Node, Mandibular | * Lymph Node, Mediastinal  |
| * Lymph Node, Mesenteric  | * Parathyroid Gland         | * Pituitary Gland        | * Preputial Gland          |
| * Prostate                | * Salivary Glands           | * Skin                   | * Trachea                  |
| * Urinary Bladder         |                             |                          |                            |

MISSING

- |                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

OBSERVATIONS

- |                          |  |                                  |                    |
|--------------------------|--|----------------------------------|--------------------|
| * Adrenal Cortex         |  | Mesothelioma Malignant           |                    |
| * Adrenal Medulla        |  | Hyperplasia                      | Mild               |
| * Bone Marrow            |  | Necrosis                         | Mild               |
| * Epididymis             |  | Mesothelioma Malignant           |                    |
| * Heart                  |  | Cardiomyopathy                   | Mild               |
|                          | Atrium                                   | Thrombosis                       | Marked             |
| * Intestine Large, Colon |  | Mesothelioma Malignant           |                    |
| * Kidney                 |  | Nephropathy                      | Minimal            |
| * Larynx                 | Epiglottis                               | Metaplasia                       | Squamous, Moderate |
| * Liver                  |  | Degeneration                     | Fatty, Moderate    |
|                          |  | Hematopoietic Cell Proliferation | Mild               |
|                          | Centrilobular                            | Necrosis                         | Mild               |
|                          | [ Degeneration TGLS = 8-4 ]              |                                  |                    |
| * Lung                   |  | Thrombosis                       | Mild               |
|                          | [ Thrombosis TGLS = 6,10-3+11 ]          |                                  |                    |
| Mesentery                |  | Mesothelioma Malignant           |                    |
|                          | [ Mesothelioma Malignant TGLS = 4,5-13 ] |                                  |                    |
| * Nose                   | Olfactory Epi                            | Degeneration                     | Hyaline, Mild      |
|                          |  | Thrombosis                       | Moderate           |
| * Pancreas               |  | Atrophy                          | Minimal            |
|                          |  | Mesothelioma Malignant           |                    |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 246

TRT#: 3

SEX: Male

DAY ON TEST: 469

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27639

ORGAN AND ACCOUNTABLE SITE STATUS

[ Mesothelioma Malignant TGLS = 4,5-13 ]

\* Pituitary Gland

Note: "Dark focus, 1mm" was blood in normal vasculature.

\* Preputial Gland

Note: "Lesion, 4mm diameter, pale" was normal secretion in duct.

\* Seminal Vesicle

Mesothelioma Malignant

\* Spleen

Hematopoietic Cell Proliferation

Marked

Mesothelioma Malignant

Necrosis

Moderate

[ Necrosis TGLS = 9-12 ]

\* Stomach, Forestomach

Mesothelioma Malignant

Necrosis

Minimal

\* Stomach, Glandular

Mesothelioma Malignant

\* Testes

Bilateral, Interstit Cell

Adenoma

Mesothelioma Malignant

[ Adenoma TGLS = 7-7 ]

[ Mesothelioma Malignant TGLS = 7-7 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

PRIMARY CAUSE OF DEATH

- Pancreas Mesothelioma Malignant

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 247

TRT#: 3

SEX: Male

DAY ON TEST: 665

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27640

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Lymph Node, Mandibular	* Mammary Gland	* Parathyroid Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
* Adrenal Medulla	Bilateral	Pheochromocytoma Benign	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
	Atrium	Thrombosis	Minimal
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
	[ Nephropathy TGLS = 7-5 ]		
* Liver		Basophilic Focus	
		Degeneration	Cystic, Mild
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 6-4 ]		
* Lung	Alveolar Epith	Hyperplasia	Mild
		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Inflammation	Suppurative, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 247	<b>TRT#:</b> 3	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 665
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27640

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pancreas		Thrombosis	Moderate
* Pituitary Gland	Pars Distalis	Atrophy	Minimal
	[ Adenoma TGLS = 1-8 ]	Adenoma	
* Preputial Gland		Inflammation	Chronic Active, Mild
	[ Inflammation TGLS = 2-7 ]		
* Spleen		Fibrosis	Moderate
	[ Fibrosis TGLS = 5-11 ]	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-11 ]		
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 3-7 ]		

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**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 248

TRT#: 3

SEX: Male

DAY ON TEST: 553

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27641

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Trachea
* Urinary Bladder			

MISSING

* Mammary Gland	* Thymus
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
* Liver		Degeneration	Fatty, Minimal
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
[ Eosinophilic Focus TGLS = 2-11 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Testes	Interstit Cell	Hyperplasia	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 249

TRT#: 3

SEX: Male

DAY ON TEST: 684

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27642

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Spleen	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

MISSING

* Lymph Node, Mandibular	* Mammary Gland
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OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Malignant	
[ Pheochromocytoma Malignant TGLS = 5-13 ]			
* Heart		Cardiomyopathy	Mild
* Islets, Pancreatic		Adenoma	
[ Adenoma TGLS = 4-11 ]			
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 6-5+13 ]			
* Liver		Angiectasis	Mild
		Degeneration	Cystic, Moderate
		Degeneration	Fatty, Minimal
	Bile Duct	Hyperplasia	Minimal
[ Angiectasis TGLS = 7-12 ]			
[ Degeneration TGLS = 7-12 ]			
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Inflammation	Suppurative, Mild
* Pancreas		Hyperplasia	Moderate
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 249

TRT#: 3

SEX: Male

DAY ON TEST: 684

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27642

ORGAN AND ACCOUNTABLE SITE STATUS

* Skin	Subcut Tiss	Fibroma Hyperkeratosis Keratoacanthoma	Marked
[ Fibroma TGLS = 9-17 ]			
[ Hyperkeratosis TGLS = 1-15 ]			
[ Keratoacanthoma TGLS = 8-16 ]			
* Stomach, Forestomach		Necrosis	Marked
[ Necrosis TGLS = 10-14 ]			
* Testes	Interstit Cell Artery	Adenoma Inflammation	Chronic Active, Mild
[ Adenoma TGLS = 3-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Moderate
PRIMARY CAUSE OF DEATH	- Pituitary Gland Pars Distalis Adenoma		
CONTRIBUTORY CAUSE OF DEATH	- Kidney Nephropathy		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 250

TRT#: 3

SEX: Male

DAY ON TEST: 634

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27643

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Larynx	* Mammary Gland
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Trachea

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-14 ]			
* Heart		Cardiomyopathy	Mild
	Atrium	Thrombosis	Moderate
[ Thrombosis TGLS = 9-4 ]			
* Islets, Pancreatic		Adenoma	
* Kidney		Leukemia Mononuclear	
	Renal Tubule	Necrosis	Mild
		Nephropathy	Moderate
* Liver		Basophilic Focus	
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
[ Hepatocellular Adenoma TGLS = 10-12 ]			
[ Leukemia Mononuclear TGLS = 3-4 ]			
* Lung		Leukemia Mononuclear	
		Thrombosis	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 250

TRT#: 3

SEX: Male

DAY ON TEST: 634

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27643

ORGAN AND ACCOUNTABLE SITE STATUS

[ Leukemia Mononuclear TGLS = 7,8-3A+3+11 ]

\* Lymph Node, Bronchial

Leukemia Mononuclear

\* Lymph Node, Mediastinal

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 11-14 ]

\* Lymph Node, Mesenteric

Leukemia Mononuclear

\* Nose

Olfactory Epi

Degeneration

Hyaline, Moderate

Leukemia Mononuclear

Thrombosis

Marked

\* Pancreas

Atrophy

Moderate

\* Pituitary Gland

Pars Distalis

Adenoma

\* Skin

Note: "Prepuce, lesion" at necropsy was noted to be paraphimosis and was not seen at trim or microscopically.

\* Spleen

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 6-13 ]

\* Stomach, Glandular

Leukemia Mononuclear

Necrosis

Moderate

[ Necrosis TGLS = 11-14 ]

\* Testes

Bilateral, Interstit Cell

Adenoma

[ Adenoma TGLS = 5-7 ]

\* Thymus

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 5-7 ]

\* Thyroid Gland

C Cell

Hyperplasia

Mild

\* Urinary Bladder

Leukemia Mononuclear

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 401

TRT#: 5

SEX: Male

DAY ON TEST: 677

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27494

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thyroid Gland
* Trachea			

OBSERVATIONS

* Adrenal Medulla		Hyperplasia Pheochromocytoma Benign	Mild
[ Pheochromocytoma Benign TGLS = 4-5 ]			
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
	Artery	Mineralization	Minimal
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Degeneration	Fatty, Mild
		Degeneration	Cystic, Minimal
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
[ Leukemia Mononuclear TGLS = 3-4 ]			
* Lung		Alveolar/Bronchiolar Carcinoma	
		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 401	<b>TRT#:</b> 5 <b>DOSE:</b> 30 MG/M3	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 677 <b>HISTO:</b> 27494
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Respirat Epith	Degeneration Inflammation Leukemia Mononuclear Thrombosis	Hyaline, Minimal Suppurative, Mild  Minimal
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\* Preputial GI  
 Note: "Enlarged" preputial gland had dilated duct filled with normal secretion.

\* Spleen [ Leukemia Mononuclear TGLS = 2-11 ]  
 Leukemia Mononuclear

\* Stom Gland  
 Note: "Diverticulum" described at trim was probably artifactual.

\* Testes Bilateral, Interstit Cell  
 Adenoma  
 [ Adenoma TGLS = 1-7 ]

\* Thymus [ Leukemia Mononuclear TGLS = 1-7 ]  
 Leukemia Mononuclear

\* Urinary Bladder Capillary  
 Hyperplasia  
 Marked

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PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 402

TRT#: 5

SEX: Male

DAY ON TEST: 736

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27495

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mediastinal
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Moderate
		Pheochromocytoma Benign	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
	[ Nephropathy TGLS = 5-5 ]		
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Degeneration	Cystic, Mild
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
	[ Basophilic Focus TGLS = 6-4 ]		
	[ Clear Cell Focus TGLS = 6-4 ]		
	[ Eosinophilic Focus TGLS = 6-4 ]		
	[ Leukemia Mononuclear TGLS = 6-4 ]		
* Lung	Alveolus	Inflammation	Chronic, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>ANIMAL ID:</b> 402	<b>TRT#:</b> 5 <b>DOSE:</b> 30 MG/M3	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 736 <b>HISTO:</b> 27495
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**ORGAN AND ACCOUNTABLE SITE STATUS**

* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Metaplasia	Osseous, Minimal
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Leukemia Mononuclear	
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Atrophy	Moderate
	[ Adenoma TGLS = 1-8 ]	Adenoma	
* Seminal Vesicle		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 1-8 ]		
* Spleen		Fibrosis	Moderate
	[ Fibrosis TGLS = 7-4 ]	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-11 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 2,3-7 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 403

TRT#: 5

SEX: Male

DAY ON TEST: 735

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27496

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Marked
	[ Nephropathy TGLS = 8-5 ]		
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Clear Cell Focus	
		Degeneration	Cystic, Mild
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Marked
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
	[ Leukemia Mononuclear TGLS = 6-4 ]		
* Lung	Alveolus	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
	[ Inflammation TGLS = 7-3A ]		
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLS = 2-12 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 403

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 735

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27496

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Respirat Epith	Degeneration Leukemia Mononuclear	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland [ Adenoma TGLS = 1-8 ]	Pars Distalis	Adenoma	
* Spleen [ Leukemia Mononuclear TGLS = 5-11 ]		Leukemia Mononuclear	
* Testes [ Adenoma TGLS = 3,4-7 ]	Bilateral, Interstit Cell	Adenoma	
* Thyroid Gland	Bilateral, C Cell	Adenoma	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 404

TRT#: 5

SEX: Male

DAY ON TEST: 735

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27497

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

\* Parathyroid Gland

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Moderate
* Adrenal Medulla		Hyperplasia	Moderate
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 4-5 ]			
* Liver		Basophilic Focus	
[ Basophilic Focus TGLS = 4-5 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 6-3+3A+11+12 ]			
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Minimal
* Pancreas		Adenoma Atrophy	Minimal
[ Adenoma TGLS = 6-3+3A+11+12 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Preputial Gland		Adenoma	
[ Adenoma TGLS = 1-15 ]			
* Spleen		Fibrosis	Moderate
[ Fibrosis TGLS = 3-13 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 404	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 30 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27497

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Testes [ Adenoma TGLS = 5-7 ]	Bilateral, Interstit Cell	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 405

TRT#: 5

SEX: Male

DAY ON TEST: 671

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27498

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Mammary Gland

AUTO PRECLUDES DIAG.

\* Intestine Small, Ileum                      \* Intestine Small, Jejunum

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Adrenal Medulla		Hyperplasia	Moderate
* Brain			
Note: "Dilatation" was secondary to pituitary mass.			
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Degeneration	Fatty, Minimal
	Bile Duct	Hyperplasia	Mild
* Lung	Alveolar Epith	Hyperplasia	Mild
	Alveolus	Inflammation	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Testes	Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 405	<b>TRT#:</b> 5 <b>DOSE:</b> 30 MG/M3	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 671 <b>HISTO:</b> 27498
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 4-7 ] * Thyroid Gland	Interstit Cell C Cell	Hyperplasia Hyperplasia	Minimal Minimal
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PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 406

TRT#: 5

SEX: Male

DAY ON TEST: 706

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27499

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
	Atrium	Thrombosis	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Basophilic Focus	
		Degeneration	Cystic, Mild
	Bile Duct	Eosinophilic Focus	
		Hyperplasia	Moderate
		Leukemia Mononuclear	
Note: "Focus, pale, 5mm diameter" was not apparent at trim or microscopically.			
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 5-16 ]	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
		[ Fibroadenoma TGLS = 2-11+12+13 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Thrombosis	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 406	<b>TRT#:</b> 5 <b>DOSE:</b> 30 MG/M3	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 706 <b>HISTO:</b> 27499
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pituitary Gland [ Adenoma TGLS = 7-8 ]	Pars Distalis	Adenoma	
* Prostate		Hyperplasia	Minimal
* Spleen  [ Fibrosis TGLS = 4-14 ] [ Leukemia Mononuclear TGLS = 3-14 ]		Fibrosis Leukemia Mononuclear	Mild
* Testes	Interstit Cell	Hyperplasia	Mild
* Thymus		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 407

TRT#: 5

SEX: Male

DAY ON TEST: 736

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27500

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Mammary Gland
* Parathyroid Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Adenoma	
		Hyperplasia	Mild
		Hypertrophy	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Islets, Pancreatic		Carcinoma	
* Kidney	Transit Epithe	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Nephropathy	Marked
[ Nephropathy TGLS = 4-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
[ Basophilic Focus TGLS = 4-5 ]			
[ Leukemia Mononuclear TGLS = 3-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pancreas		Adenoma	
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Preputial Gland		Inflammation	Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 407

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 736

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27500

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Inflammation TGLS = 1-7 ]

* Prostate		Hyperplasia	Minimal
* Spleen		Leukemia Mononuclear	
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Testes	Artery	Inflammation	Chronic Active, Mild
* Thyroid Gland	Follicular Cel	Carcinoma	
	C Cell	Hyperplasia	Mild

[ Carcinoma TGLS = 5-2 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 408

TRT#: 5

SEX: Male

DAY ON TEST: 693

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27501

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Pancreas	* Preputial Gland	* Prostate
* Salivary Glands	* Skin	* Stomach, Forestomach	* Thymus
* Trachea			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Minimal
* Adrenal Medulla		Hyperplasia	Marked
		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Moderate
	Atrium	Thrombosis	Mild
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 4-5 ]			
* Liver		Basophilic Focus	
		Degeneration	Cystic, Moderate
		Degeneration	Fatty, Minimal
	Bile Duct	Hyperplasia	Minimal
		Mixed Cell Focus	
Note: "Focus, 2mm diameter, dark" in left lobe was not apparent microscopically, but most likely was another area of cystic degeneration.			
[ Basophilic Focus TGLS = 4-5 ]			
[ Degeneration TGLS = 7-14 ]			
[ Mixed Cell Focus TGLS = 6-13 ]			
* Lung	Alveolar Epith	Hyperplasia	Minimal
		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 408

TRT#: 5

SEX: Male

DAY ON TEST: 693

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27501

ORGAN AND ACCOUNTABLE SITE STATUS

	Respirat Epith	Degeneration Inflammation Hyperplasia	Hyaline, Minimal Suppurative, Minimal Moderate
* Parathyroid Gland			
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
[ Adenoma TGLS = 1-8 ]			
* Seminal Vesicle		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-8 ]			
* Spleen		Fibrosis Leukemia Mononuclear	Moderate
[ Fibrosis TGLS = 5-4 ]			
[ Leukemia Mononuclear TGLS = 5-4 ]			
* Stomach, Glandular		Leukemia Mononuclear Necrosis	Mild
* Testes	Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH - Seminal Vesicle Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 409

TRT#: 5

SEX: Male

DAY ON TEST: 525

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27502

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Bone                     | * Epididymis              | * Esophagus                 | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    | * Parathyroid Gland      |
| * Preputial Gland          | * Prostate                | * Salivary Glands           | * Seminal Vesicle        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Thyroid Gland          |
| * Trachea                  |                           |                             |                          |

MISSING

- |                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

OBSERVATIONS

- |   |                |                         |                   |
|---|----------------|-------------------------|-------------------|
| * Adrenal Cortex                          |                | Leukemia Mononuclear    |                   |
| * Adrenal Medulla                         |                | Leukemia Mononuclear    |                   |
|   |                | Pheochromocytoma Benign |                   |
| * Bone Marrow                             |                | Leukemia Mononuclear    |                   |
| * Brain                                   |                | Leukemia Mononuclear    |                   |
| * Heart                                   |                | Leukemia Mononuclear    |                   |
| * Kidney                                  |                | Cyst                    | Mild              |
|   |                | Leukemia Mononuclear    |                   |
|   |                | Nephropathy             | Mild              |
| [ Cyst TGLS = 4-12 ]                      |                |                         |                   |
| * Liver                                   | Bile Duct      | Hyperplasia             | Moderate          |
|   |                | Leukemia Mononuclear    |                   |
| [ Leukemia Mononuclear TGLS = 4-12 ]      |                |                         |                   |
| * Lung                                    |                | Leukemia Mononuclear    |                   |
| [ Leukemia Mononuclear TGLS = 1-3+3A+11 ] |                |                         |                   |
| * Lymph Node, Bronchial                   |                | Leukemia Mononuclear    |                   |
| * Lymph Node, Mandibular                  |                | Leukemia Mononuclear    |                   |
| * Lymph Node, Mediastinal                 |                | Leukemia Mononuclear    |                   |
| * Lymph Node, Mesenteric                  |                | Leukemia Mononuclear    |                   |
| * Nose                                    | Olfactory Epi  | Degeneration            | Hyaline, Moderate |
|   | Respirat Epith | Degeneration            | Hyaline, Minimal  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 409

TRT#: 5

SEX: Male

DAY ON TEST: 525

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27502

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pancreas		Leukemia Mononuclear	
* Pituitary Gland	Pars Distalis	Thrombosis	Moderate
		Atrophy	Minimal
		Hyperplasia	Moderate
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 3-13 ]	Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 2-7 ]		
* Urinary Bladder		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-7 ]		

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 410

TRT#: 5

DOSE: 30 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 665

HISTO: 27503

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Bone                     | * Epididymis              | * Esophagus                 | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    | * Mammary Gland          |
| * Parathyroid Gland        | * Preputial Gland         | * Prostate                  | * Salivary Glands        |
| * Seminal Vesicle          | * Skin                    | * Stomach, Forestomach      | * Thymus                 |
| * Trachea                  | * Urinary Bladder         |                             |                          |

OBSERVATIONS

- |                                     |                |                         |                   |
|-------------------------------------|----------------|-------------------------|-------------------|
| * Adrenal Cortex                    |                | Hyperplasia             | Mild              |
| * Adrenal Medulla                   |                | Leukemia Mononuclear    |                   |
| * Bone Marrow                       |                | Leukemia Mononuclear    |                   |
| * Brain                             |                | Pheochromocytoma Benign |                   |
| * Heart                             |                | Leukemia Mononuclear    |                   |
| * Kidney                            |                | Leukemia Mononuclear    |                   |
| * Liver                             |                | Nephropathy             | Mild              |
|                                     |                | Basophilic Focus        |                   |
|                                     | Bile Duct      | Hyperplasia             | Mild              |
|                                     |                | Leukemia Mononuclear    |                   |
| [ Leukemia Mononuclear TGLS = 5-4 ] |                |                         |                   |
| * Lung                              | Alveolus       | Inflammation            | Chronic, Mild     |
|                                     |                | Leukemia Mononuclear    |                   |
| [ Inflammation TGLS = 2-12 ]        |                |                         |                   |
| * Lymph Node, Bronchial             |                | Leukemia Mononuclear    |                   |
| * Lymph Node, Mandibular            |                | Leukemia Mononuclear    |                   |
| * Lymph Node, Mediastinal           |                | Leukemia Mononuclear    |                   |
| * Lymph Node, Mesenteric            |                | Leukemia Mononuclear    |                   |
| * Nose                              | Olfactory Epi  | Degeneration            | Hyaline, Moderate |
|                                     | Respirat Epith | Degeneration            | Hyaline, Mild     |
|                                     |                | Leukemia Mononuclear    |                   |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 410

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 665

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27503

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia Leukemia Mononuclear	Mild
[ Hyperplasia TGLS = 1-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-11 ]			
* Stomach, Glandular		Necrosis	Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 411

TRT#: 5

SEX: Male

DAY ON TEST: 735

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27504

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Moderate
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
[ Nephropathy TGLS = 9-5 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Angiectasis	Mild
		Basophilic Focus	
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
[ Angiectasis TGLS = 8-11+12 ]			
[ Leukemia Mononuclear TGLS = 9-5 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-11+12 ]			
Lymph Node	Iliac	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-17 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 411

TRT#: 5

SEX: Male

DAY ON TEST: 735

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27504

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Galactoceles	Moderate
[ Galactoceles TGLS = 2-15 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 6-16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Leukemia Mononuclear	
		Thrombosis	Moderate
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
[ Adenoma TGLS = 3-8 ]			
* Skin		Fibrosis	Mild
[ Fibrosis TGLS = 1-14 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-13 ]			
* Testes	Interstit Cell	Adenoma	
		Atrophy	Moderate
[ Adenoma TGLS = 5-7 ]			
[ Atrophy TGLS = 4-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 412

TRT#: 5

DOSE: 30 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 729

HISTO: 27505

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Spleen	* Stomach, Glandular	* Trachea
* Urinary Bladder			

MISSING

* Lymph Node, Bronchial	* Mammary Gland	* Thymus	
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OBSERVATIONS

* Heart		Cardiomyopathy	Mild
* Kidney	Renal Tubule	Adenoma	
		Nephropathy	Marked
	[ Nephropathy TGLS = 9-5 ]		
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Degeneration	Fatty, Minimal
	Bile Duct	Hyperplasia	Minimal
	Note: "Focus, 1mm, dark" was blood in normal hepatic vasculature.		
	[ Degeneration TGLS = 7-4 ]		
* Lung	Alveolus	Inflammation	Chronic, Mild
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 3-8 ]		
* Prostate		Hyperplasia	Mild
* Skin		Inflammation	Acute, Moderate
	[ Inflammation TGLS = 4-11 ]		
* Stomach, Forestomach		Necrosis	Moderate
* Testes	Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 412

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27505

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Adenoma TGLS = 5-7 ]

[ Atrophy TGLS = 6-7 ]

\* Thyroid Gland

C Cell

Atrophy

Moderate

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 413

TRT#: 5

SEX: Male

DAY ON TEST: 623

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27506

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Parathyroid Gland

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Degeneration	Fatty, Minimal
		Degeneration	Cystic, Mild
	Bile Duct	Hyperplasia	Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 1-8 ]		
* Prostate		Hyperplasia	Minimal
* Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 414

TRT#: 5

SEX: Male

DAY ON TEST: 629

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27507

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Mammary Gland
* Pancreas	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

MISSING

\* Parathyroid Gland

OBSERVATIONS

* Adrenal Medulla		Hyperplasia Pheochromocytoma Benign	Mild
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
	Atrium	Thrombosis	Moderate
	[ Thrombosis TGLS = 6-4 ]		
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
	[ Leukemia Mononuclear TGLS = 6-4 ]		
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Degeneration	Fatty, Mild
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
	[ Leukemia Mononuclear TGLS = 2-4 ]		
* Lung		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-4 ]		
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 414	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 629
	<b>DOSE:</b> 30 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27507

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pituitary Gland [ Adenoma TGLS = 1-8 ]	Pars Distalis	Inflammation Thrombosis Adenoma	Suppurative, Minimal Marked
* Spleen [ Leukemia Mononuclear TGLS = 3-11 ] [ Necrosis TGLS = 4-11 ]		Leukemia Mononuclear Necrosis	Mild
* Stomach, Forestomach [ Necrosis TGLS = 5-8 ]		Necrosis	Moderate
* Testes	Bilateral, Interstit Cell	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Minimal

---

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 415

TRT#: 5

SEX: Male

DAY ON TEST: 594

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27508

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear Vacuolization Cytoplasmic	Mild
[ Leukemia Mononuclear TGLS = 4-14 ]			
* Adrenal Medulla		Leukemia Mononuclear Pheochromocytoma Malignant	
[ Pheochromocytoma Malignant TGLS = 2-13 ]			
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-8 ]			
* Brain		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-8 ]			
* Heart		Cardiomyopathy	Moderate
* Kidney	Renal Tubule	Hyperplasia Leukemia Mononuclear Nephropathy	Moderate Moderate
* Liver	Bile Duct	Degeneration Hyperplasia Leukemia Mononuclear	Moderate Cystic, Mild Mild
	Centrilobular	Necrosis Leukemia Mononuclear	Mild
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-14 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-14 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 415

TRT#: 5

SEX: Male

DAY ON TEST: 594

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27508

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mediastinal [ Leukemia Mononuclear TGLS = 2-13 ]		Leukemia Mononuclear	
* Lymph Node, Mesenteric [ Leukemia Mononuclear TGLS = 4-14 ]		Leukemia Mononuclear	
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration Inflammation Leukemia Mononuclear Thrombosis	Hyaline, Moderate Hyaline, Minimal Suppurative, Mild Marked
Oral Mucosa [ Squamous Cell Papilloma TGLS = 4-14 ]	Pharyngeal	Squamous Cell Papilloma	
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
* Spleen [ Leukemia Mononuclear TGLS = 1-12 ]		Leukemia Mononuclear	
* Testes [ Adenoma TGLS = 3-7 ]	Bilateral, Interstit Cell	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 416

TRT#: 5

SEX: Male

DAY ON TEST: 459

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27509

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

* Intestine Small, Ileum	* Mammary Gland
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OBSERVATIONS

* Brain			
Note: "Dilatation" was secondary to pituitary mass.			
* Heart		Hemangioma	
[ Hemangioma TGLS = 2-13 ]			
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Degeneration	Fatty, Mild
[ Degeneration TGLS = 3-4 ]			
* Lung			
Note: "Red" lungs described at necropsy were due to blood pooling in pulmonary vasculature.			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Stomach, Forestomach		Hyperplasia	Squamous, Moderate
* Testes	Interstit Cell	Hyperplasia	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 416

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 459

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27509

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 417

TRT#: 5

SEX: Male

DAY ON TEST: 736

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27510

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone Marrow            | * Brain                    | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    |
| * Lymph Node, Mandibular | * Lymph Node, Mesenteric   | * Preputial Gland         | * Prostate                  |
| * Salivary Glands        | * Seminal Vesicle          | * Thymus                  | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

MISSING

- |                         |                           |                 |
|-------------------------|---------------------------|-----------------|
| * Lymph Node, Bronchial | * Lymph Node, Mediastinal | * Mammary Gland |
|-------------------------|---------------------------|-----------------|

INSUFFICIENT TISSUE

- \* Skin

OBSERVATIONS

- |                   |            |   |                  |
|-------------------|------------|---|------------------|
| * Adrenal Cortex  |            | Hyperplasia   | Mild             |
|                   |            | Hypertrophy   | Minimal          |
| * Adrenal Medulla |            | Pheochromocytoma Benign   |                  |
| Blood Vessel      | Aorta      | Mineralization  | Minimal          |
| * Bone            |            | Fibrous Osteodystrophy  | Mild             |
| * Heart           |            | Cardiomyopathy  | Moderate         |
| * Kidney          |            | Leukemia Mononuclear  |                  |
|                   |            | Mineralization  | Minimal          |
|                   |            | Nephropathy   | Marked           |
|                   |            | [ Nephropathy TGLS = 5-5+13 ]   |                  |
| * Liver           |            | Basophilic Focus  |                  |
|                   | Bile Duct  | Hyperplasia   | Mild             |
|                   |            | Leukemia Mononuclear  |                  |
|                   |            | Note: The "deformity, 5mm diameter" described at necropsy was not apparently microscopically. |                  |
| * Lung            |            | Hemorrhage  | Mild             |
|                   | Alveolus   | Inflammation  | Chronic, Minimal |
|                   |            | Leukemia Mononuclear  |                  |
|                   |            | [ Hemorrhage TGLS = 2,3-11+3 ]  |                  |
| Lymph Node        | Pancreatic | Leukemia Mononuclear  |                  |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 417

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 736

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27510

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Mild
* Pancreas		Atrophy	Mild
* Parathyroid Gland		Hyperplasia	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-12 ]			
* Stomach, Forestomach		Mineralization	Mild
* Stomach, Glandular		Mineralization	Moderate
* Testes	Bilateral, Interstit Cell	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 418

TRT#: 5

DOSE: 30 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27511

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Schwannoma Malignant	
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 4-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Basophilic Focus TGLS = 4-5 ]			
[ Clear Cell Focus TGLS = 4-5 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
* Prostate		Hyperplasia	Moderate
* Skin		Hyperkeratosis	Moderate
[ Hyperkeratosis TGLS = 5-11 ]			
* Spleen		Fibrosis	Minimal
[ Fibrosis TGLS = 3-4 ]			
* Stomach, Forestomach		Mineralization	Mild
* Stomach, Glandular		Mineralization	Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1,2-7+12 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 418

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 737

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27511

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 419

TRT#: 5

SEX: Male

DAY ON TEST: 566

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27512

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Moderate
		Hypertrophy	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
	Atrium	Leukemia Mononuclear	
		Thrombosis	Mild
* Kidney		Nephropathy	Mild
* Liver	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 7-4 ]		
* Lung		Hemorrhage	Mild
		Leukemia Mononuclear	
		Thrombosis	Mild
	[ Hemorrhage TGLS = 5-3+3A+16 ]		
	[ Leukemia Mononuclear TGLS = 4-3+3A+16 ]		
Lymph Node	Pancreatic	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 11-14 ]		
	[ Leukemia Mononuclear TGLS = 8-13 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 419

TRT#: 5

DOSE: 30 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 566

HISTO: 27512

ORGAN AND ACCOUNTABLE SITE STATUS

[ Leukemia Mononuclear TGLS = 2-7 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-7 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
		Thrombosis	Mild
Penis		Inflammation	Acute, Moderate
[ Inflammation TGLS = 1-15 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 6-8 ]			
* Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
		Necrosis	Marked
[ Leukemia Mononuclear TGLS = 9-11 ]			
[ Necrosis TGLS = 10-12 ]			
* Testes	Interstit Cell	Adenoma	
* Thymus		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 420

TRT#: 5

DOSE: 30 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 454

HISTO: 27513

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Parathyroid Gland	Penis	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Bronchial	* Thymus
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Minimal
* Brain			
Note: "Dilatation" of cerebrum was secondary to pituitary mass.			
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Hepatodiaphragmatic Nodule	
[ Hepatodiaphragmatic Nodule TGLS = 2-11 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
Penis			
Note: Penis was within normal limits microscopically.			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 421

TRT#: 5

SEX: Male

DAY ON TEST: 736

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27514

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Pancreas
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Mediastinal	* Mammary Gland
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Moderate
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Marked
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
	Bile Duct	Hyperplasia	Minimal
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Minimal
* Parathyroid Gland		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 1-8 ]		
* Prostate		Inflammation	Chronic Active, Mild
* Spleen			
	Note: "Enlarged" spleen was within normal limits microscopically.		
* Testes	Interstit Cell	Adenoma	
	[ Adenoma TGLS = 2-7 ]		
* Thyroid Gland	C Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 421

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 736

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27514

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

C Cell

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 422

TRT#: 5

SEX: Male

DAY ON TEST: 585

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27515

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Spleen	* Stomach, Glandular	* Testes
* Trachea	* Urinary Bladder		

MISSING

\* Thymus

OBSERVATIONS

* Adrenal Cortex		Thrombosis	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Intestine Large, Cecum		Necrosis	Moderate
* Kidney		Infarct	Mild
		Nephropathy	Marked
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Degeneration	Fatty, Moderate
[ Degeneration TGLS = 4-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 2-3+3A+11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Marked
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Skin		Basal Cell Adenoma	
[ Basal Cell Adenoma TGLS = 1-12 ]			
* Stomach, Forestomach		Necrosis	Marked
[ Necrosis TGLS = 5-8 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 422

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 585

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27515

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Intestine Large; Cecum Necrosis; Stomach; Forestomach Necrosis

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 423

TRT#: 5

DOSE: 30 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27516

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Larynx
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Pancreas	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

* Mammary Gland	* Parathyroid Gland
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Moderate
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Islets, Pancreatic		Adenoma	
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 7-5 ]			
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Degeneration	Cystic, Minimal
	Bile Duct	Hyperplasia	Minimal
		Mixed Cell Focus	
Note: Pale liver was due to anemia secondary to chronic nephropathy.			
[ Basophilic Focus TGLS = 7-5 ]			
[ Clear Cell Focus TGLS = 6-4 ]			
[ Mixed Cell Focus TGLS = 5-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 9-3 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 8-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 423	<b>TRT#:</b> 5 <b>DOSE:</b> 30 MG/M3	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 735 <b>HISTO:</b> 27516
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pituitary Gland [ Adenoma TGLS = 3-8 ]	Respirat Epith Pars Distalis	Degeneration Adenoma	Hyaline, Mild
* Preputial Gland [ Inflammation TGLS = 1-7 ]		Inflammation	Chronic Active, Mild
* Testes [ Adenoma TGLS = 10-7 ]	Bilateral, Interstit Cell	Adenoma	
* Thyroid Gland Zymbal's Gland [ Carcinoma TGLS = 2-11 ]	C Cell	Hyperplasia Carcinoma	Moderate

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PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 424

TRT#: 5

SEX: Male

DAY ON TEST: 721

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27517

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Parathyroid Gland	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Moderate
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 7-5 ]			
* Liver		Basophilic Focus	
		Degeneration	Cystic, Mild
		Degeneration	Fatty, Mild
[ Basophilic Focus TGLS = 7-5 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 1-3+11 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-3+11 ]			
Mesentery	Fat	Necrosis	Moderate
[ Necrosis TGLS = 5-13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pancreas		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Prostate		Hyperplasia	Mild
* Spleen		Fibrosis	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 424

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 721

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27517

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibrosis TGLS = 4-12 ]

\* Testes

Bilateral, Interstit Cell

Adenoma

[ Adenoma TGLS = 3-7 ]

\* Thyroid Gland

C Cell

Hyperplasia

Mild

Tooth

Inflammation

Chronic Active, Moderate

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Kidney Nephropathy;Liver Basophilic Focus

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 425

TRT#: 5

SEX: Male

DAY ON TEST: 727

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27518

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Mammary Gland	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Stomach, Glandular	* Thyroid Gland
* Trachea			

OBSERVATIONS

* Adrenal Medulla	Bilateral	Hyperplasia	Moderate
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Minimal
* Kidney		Leukemia Mononuclear	
		Nephropathy	Marked
[ Nephropathy TGLS = 4-5 ]			
* Liver		Degeneration	Fatty, Marked
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Degeneration TGLS = 2-4 ]			
[ Hepatodiaphragmatic Nodule TGLS = 3-4 ]			
[ Leukemia Mononuclear TGLS = 4-5 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 11-12 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-11 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-11 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-11 ]			
Mesentery	Fat	Necrosis	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 425

TRT#: 5

SEX: Male

DAY ON TEST: 727

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27518

ORGAN AND ACCOUNTABLE SITE STATUS

[ Necrosis TGLS = 6-14 ]			
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Minimal
* Pancreas		Atrophy	Mild
[ Atrophy TGLS = 12-4 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Preputial GI			
Note: "Pale lesion" was duct dilated by normal secretion.			
* Prostate		Hyperplasia	Minimal
* Skin		Keratoacanthoma	
[ Keratoacanthoma TGLS = 10-15 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-15 ]			
* Stomach, Forestomach		Necrosis	Moderate
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 7-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-7 ]			
* Urinary Bladder		Hemorrhage Inflammation	Mild Chronic Active, Mild
[ Hemorrhage TGLS = 5-8 ]			

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH - Kidney Nephropathy;Liver Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 426

TRT#: 5

SEX: Male

DAY ON TEST: 632

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27519

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Moderate
	Atrium	Thrombosis	Marked
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
* Preputial Gland		Inflammation	Chronic Active, Marked
	[ Inflammation TGLS = 3,5-7+11 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 4-7 ]		

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

CONTRIBUTORY CAUSE OF DEATH - Heart Atrium Thrombosis

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 427

TRT#: 5

SEX: Male

DAY ON TEST: 526

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27520

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone Marrow	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Minimal
		Pheochromocytoma Benign	
* Bone		Fibrous Osteodystrophy	Mild
		Osteosarcoma	
	[ Osteosarcoma TGLS = 4-11+12+13+14 ]		
* Heart		Cardiomyopathy	Mild
* Kidney	Renal Tubule	Hyperplasia	Mild
	Transit Epithe	Hyperplasia	Minimal
		Nephropathy	Marked
	[ Nephropathy TGLS = 3-5 ]		
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Mild
	[ Basophilic Focus TGLS = 2-4 ]		
	[ Degeneration TGLS = 2-4 ]		
* Lung	Interstitialium	Fibrosis	Minimal
		Hemorrhage	Minimal
	Alveolar Epith	Hyperplasia	Minimal
	[ Hemorrhage TGLS = 5-3 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 427

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 526

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27520

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Spleen		Hematopoietic Cell Proliferation	Moderate
* Stomach, Forestomach		Hyperplasia	Squamous, Minimal
* Testes	Interstit Cell	Hyperplasia	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild

---

PRIMARY CAUSE OF DEATH

- Bone Osteosarcoma

CONTRIBUTORY CAUSE OF DEATH

- Kidney Nephropathy

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 428

TRT#: 5

SEX: Male

DAY ON TEST: 553

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27521

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Brain                    | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Parathyroid Gland         |
| * Preputial Gland        | * Prostate                 | * Salivary Glands         | * Skin                      |
| * Stomach, Glandular     | * Trachea                  |                           |                             |

MISSING

- |                          |                 |
|--------------------------|-----------------|
| * Lymph Node, Mandibular | * Mammary Gland |
|--------------------------|-----------------|

OBSERVATIONS

- |                           |                                     |                      |                  |
|---------------------------|-------------------------------------|----------------------|------------------|
| * Adrenal Cortex          |                                     | Leukemia Mononuclear |                  |
| * Adrenal Medulla         |                                     | Hyperplasia          | Mild             |
|                           |                                     | Leukemia Mononuclear |                  |
| * Bone Marrow             |                                     | Leukemia Mononuclear |                  |
| * Heart                   |                                     | Leukemia Mononuclear |                  |
| * Kidney                  |                                     | Leukemia Mononuclear |                  |
|                           |                                     | Nephropathy          | Mild             |
| * Larynx                  | Epiglottis                          | Hyperplasia          | Minimal          |
| * Liver                   | Bile Duct                           | Hyperplasia          | Moderate         |
|                           |                                     | Leukemia Mononuclear |                  |
|                           | Centrilobular                       | Necrosis             | Mild             |
|                           | [ Leukemia Mononuclear TGLS = 2-4 ] |                      |                  |
| * Lung                    |                                     | Leukemia Mononuclear |                  |
|                           | [ Leukemia Mononuclear TGLS = 1-3 ] |                      |                  |
| * Lymph Node, Bronchial   |                                     | Leukemia Mononuclear |                  |
| * Lymph Node, Mediastinal |                                     | Leukemia Mononuclear |                  |
| * Lymph Node, Mesenteric  |                                     | Leukemia Mononuclear |                  |
| Mesentery                 | Fat                                 | Necrosis             | Mild             |
|                           | [ Necrosis TGLS = 3-12 ]            |                      |                  |
| * Nose                    | Olfactory Epi                       | Degeneration         | Hyaline, Minimal |
|                           | Respirat Epith                      | Degeneration         | Hyaline, Minimal |
|                           |                                     | Leukemia Mononuclear |                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 428

TRT#: 5

SEX: Male

DAY ON TEST: 553

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27521

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pancreas		Thrombosis	Moderate
* Pituitary Gland	Pars Distalis	Atrophy	Mild
		Hyperplasia	Mild
* Seminal Vesicle		Leukemia Mononuclear	
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-11 ]	Leukemia Mononuclear	
* Stomach, Forestomach		Leukemia Mononuclear	
* Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
	[ Adenoma TGLS = 5-7 ]		
* Thymus		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Urinary Bladder		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 429

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 735

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27522

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Mammary Gland	* Parathyroid Gland	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Thymus	* Trachea
* Urinary Bladder			

**MISSING**

\* Lymph Node, Mediastinal

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
		Pheochromocytoma Benign	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
* Intestine Small, Duodenum		Carcinoma	
[ Carcinoma TGLS = 3-14+15 ]			
* Kidney		Leukemia Mononuclear	
		Nephropathy	Marked
[ Leukemia Mononuclear TGLS = 6-5 ]			
[ Nephropathy TGLS = 6-5 ]			
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
Note: "Deformity" described at trim was variation in normal shape of lobe. [ Basophilic Focus TGLS = 6-5 ] [ Leukemia Mononuclear TGLS = 6-5 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 429

TRT#: 5

SEX: Male

DAY ON TEST: 735

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27522

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pancreas	Respirat Epith	Degeneration	Hyaline, Moderate
* Pituitary Gland	Pars Distalis	Atrophy	Mild
[ Adenoma TGLS = 2-8 ]		Adenoma	
* Preputial Gland		Adenoma	
[ Adenoma TGLS = 4-7+12 ]			
* Prostate		Hyperplasia	Moderate
* Skin	Subcut Tiss	Fibroma	
[ Fibroma TGLS = 1-11 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-11 ]			
* Stomach, Glandular		Mineralization	Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 5-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 430

TRT#: 5

SEX: Male

DAY ON TEST: 566

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27523

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                           |
|----------------------------|---------------------------|-----------------------------|---------------------------|
| * Bone                     | * Epididymis              | * Esophagus                 | * Intestine Large, Cecum  |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum  |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    | * Lymph Node, Mediastinal |
| * Pancreas                 | * Parathyroid Gland       | * Preputial Gland           | * Prostate                |
| * Salivary Glands          | * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach    |
| * Stomach, Glandular       | * Trachea                 | * Urinary Bladder           |                           |

MISSING

- |                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

OBSERVATIONS

- |                                     |                |                      |          |
|-------------------------------------|----------------|----------------------|----------|
| * Adrenal Cortex                    |                | Leukemia Mononuclear |          |
| * Adrenal Medulla                   |                | Leukemia Mononuclear |          |
| * Bone Marrow                       |                | Leukemia Mononuclear |          |
| * Brain                             |                | Leukemia Mononuclear |          |
|                                     |                | Necrosis             | Mild     |
| [ Necrosis TGLS = 5-1 ]             |                |                      |          |
| * Heart                             |                | Cardiomyopathy       | Mild     |
|                                     |                | Leukemia Mononuclear |          |
|                                     | Atrium         | Thrombosis           | Moderate |
| * Kidney                            |                | Infarct              | Mild     |
|                                     |                | Leukemia Mononuclear |          |
|                                     |                | Nephropathy          | Mild     |
| [ Infarct TGLS = 4-12 ]             |                |                      |          |
| * Liver                             | Bile Duct      | Hyperplasia          | Mild     |
|                                     |                | Leukemia Mononuclear |          |
|                                     | Centrilobular  | Necrosis             | Mild     |
| [ Leukemia Mononuclear TGLS = 3-4 ] |                |                      |          |
| * Lung                              | Alveolar Epith | Hyperplasia          | Minimal  |
|                                     |                | Leukemia Mononuclear |          |
| * Lymph Node, Bronchial             |                | Leukemia Mononuclear |          |
| * Lymph Node, Mandibular            |                | Leukemia Mononuclear |          |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 430

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 566

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27523

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Mild
		Leukemia Mononuclear	
		Thrombosis	Marked
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
		Leukemia Mononuclear	
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-11 ]		
* Testes	Interstit Cell	Adenoma	
	[ Adenoma TGLS = 1-7 ]		
* Thyroid Gland	C Cell	Adenoma	
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 431

TRT#: 5

DOSE: 30 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 611

HISTO: 27524

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Parathyroid Gland
* Preputial Gland	* Prostate	* Skin	* Trachea

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
		Pheochromocytoma Benign	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
[ Leukemia Mononuclear TGLS = 6-5 ]			
* Liver		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
[ Hepatodiaphragmatic Nodule TGLS = 4-12 ]			
[ Leukemia Mononuclear TGLS = 6-5 ]			
* Lung	Alveolar Epith	Hyperplasia	Moderate
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-12 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 431

TRT#: 5

DOSE: 30 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 611

HISTO: 27524

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mandibular [ Leukemia Mononuclear TGLS = 1-7 ]		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration Leukemia Mononuclear Thrombosis	Hyaline, Moderate Hyaline, Minimal  Moderate
* Pancreas		Leukemia Mononuclear	
* Pituitary Gland  [ Adenoma TGLS = 3-8 ]	Pars Distalis	Adenoma Leukemia Mononuclear	
* Salivary Glands [ Leukemia Mononuclear TGLS = 3-8 ]		Leukemia Mononuclear	
* Seminal Vesicle [ Leukemia Mononuclear TGLS = 3-8 ]		Leukemia Mononuclear	
* Spleen [ Leukemia Mononuclear TGLS = 5-4 ]		Leukemia Mononuclear	
* Stomach, Forestomach		Leukemia Mononuclear	
* Stomach, Glandular		Leukemia Mononuclear	
* Testes	Interstit Cell	Adenoma	
* Thymus [ Leukemia Mononuclear TGLS = 2-11 ]		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Adenoma	
* Urinary Bladder [ Leukemia Mononuclear TGLS = 7-8 ]		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 432

TRT#: 5

SEX: Male

DAY ON TEST: 665

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27525

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Brain	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Trachea

OBSERVATIONS

* Adrenal Cortex		Adenoma	
		Atrophy	Moderate
		Leukemia Mononuclear	
* Adrenal Medulla		Leukemia Mononuclear	
		Pheochromocytoma Benign	
* Bone		Hyperostosis	Moderate
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
* Kidney	Renal Tubule	Hyperplasia	Marked
		Leukemia Mononuclear	
		Nephropathy	Marked
		[ Leukemia Mononuclear TGLS = 4-5 ]	
		[ Nephropathy TGLS = 4-5 ]	
* Liver	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Minimal
		[ Leukemia Mononuclear TGLS = 3-4 ]	
* Lung	Alveolar Epith	Hyperplasia	Mild
	Alveolus	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 3-4 ]	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 432                      **TRT#:** 5                      **SEX:** Male                      **DAY ON TEST:** 665  
**DOSE:** 30 MG/M3                      **DISP:** Moribund Sacrifice                      **HISTO:** 27525

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
		Inflammation	Suppurative, Mild
		Leukemia Mononuclear	
		Thrombosis	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
	[ Adenoma TGLS = 1-8 ]		
	[ Leukemia Mononuclear TGLS = 1-8 ]		
* Preputial GI			
	Note: "Enlarged" preputial noted at trim had dilated duct filled with normal secretion.		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-11 ]		
* Stomach, Forestomach		Leukemia Mononuclear	
* Stomach, Glandular		Leukemia Mononuclear	
* Testes	Interstit Cell	Hyperplasia	Minimal
* Thymus		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Urinary Bladder		Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH**                      - Spleen    Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 433

TRT#: 5

DOSE: 30 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 693

HISTO: 27526

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Spleen
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Minimal
* Kidney	Renal Tubule	Hyperplasia	Minimal
	[ Nephropathy TGLS = 4-5 ]	Nephropathy	Marked
* Liver		Basophilic Focus	
		Degeneration	Fatty, Marked
		Degeneration	Cystic, Mild
	Bile Duct	Hyperplasia	Minimal
	[ Degeneration TGLS = 5-4 ]		
* Lung		Carcinoma	Metastatic (Thyroid Gland)
	Alveolus	Inflammation	Chronic, Mild
	[ Inflammation TGLS = 6-3+3A ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 2-8 ]		
* Prostate		Inflammation	Chronic Active, Moderate
* Stomach, Forestomach		Necrosis	Moderate
	[ Necrosis TGLS = 7-8+13 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 433

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 693

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27526

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* Stomach, Glandular  
[ Necrosis TGLS = 8-14 ]

Necrosis

Moderate

\* Testes  
[ Adenoma TGLS = 3-7 ]

Bilateral, Interstit Cell

Adenoma

\* Thyroid Gland  
[ Carcinoma TGLS = 1-2 ]

C Cell

Carcinoma

---

PRIMARY CAUSE OF DEATH

- Kidney Nephropathy

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 434

TRT#: 5

SEX: Male

DAY ON TEST: 637

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27527

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Brain                    | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mesenteric | * Preputial Gland          | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                           |                                      |                      |                   |
|---------------------------|--------------------------------------|----------------------|-------------------|
| * Adrenal Cortex          |                                      | Leukemia Mononuclear |                   |
| * Adrenal Medulla         |                                      | Hyperplasia          | Mild              |
|                           |                                      | Leukemia Mononuclear |                   |
| * Bone Marrow             |                                      | Leukemia Mononuclear |                   |
|                           | [ Leukemia Mononuclear TGLS = 8-14 ] |                      |                   |
| * Heart                   |                                      | Cardiomyopathy       | Mild              |
| * Kidney                  |                                      | Leukemia Mononuclear |                   |
|                           |                                      | Nephropathy          | Moderate          |
| * Larynx                  | Epiglottis                           | Hyperplasia          | Minimal           |
| * Liver                   | Bile Duct                            | Hyperplasia          | Moderate          |
|                           |                                      | Leukemia Mononuclear |                   |
|                           | Centrilobular                        | Necrosis             | Minimal           |
| * Lung                    |                                      | Leukemia Mononuclear |                   |
| Lymph Node                | Pancreatic                           | Leukemia Mononuclear |                   |
| * Lymph Node, Bronchial   |                                      | Leukemia Mononuclear |                   |
| * Lymph Node, Mediastinal |                                      | Leukemia Mononuclear |                   |
| * Nose                    | Olfactory Epi                        | Degeneration         | Hyaline, Moderate |
|                           | Respirat Epith                       | Degeneration         | Hyaline, Minimal  |
|                           |                                      | Leukemia Mononuclear |                   |
|                           |                                      | Thrombosis           | Moderate          |
| * Pancreas                |                                      | Atrophy              | Mild              |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 434	<b>TRT#:</b> 5 <b>DOSE:</b> 30 MG/M3	<b>SEX:</b> Male <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 637 <b>HISTO:</b> 27527
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
	[ Adenoma TGLS = 1-8 ] [ Leukemia Mononuclear TGLS = 1-8 ]		
* Prostate		Hyperplasia	Minimal
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 3-11 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 2-7 ]		
* Thymus		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-7 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 435

TRT#: 5

SEX: Male

DAY ON TEST: 735

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27528

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Parathyroid Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Mild
* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Mild
* Islets, Pancreatic		Carcinoma	
* Kidney		Cyst	Mild
		Nephropathy	Marked
[ Cyst TGLS = 6-5 ]			
[ Nephropathy TGLS = 5-5,7-14 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Degeneration	Cystic, Mild
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
[ Clear Cell Focus TGLS = 8-15 ]			
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 435	<b>TRT#:</b> 5 <b>DOSE:</b> 30 MG/M3	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 735 <b>HISTO:</b> 27528
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pituitary Gland [ Adenoma TGLS = 1-8 ]	Pars Distalis	Adenoma	
* Preputial Gland [ Adenoma TGLS = 2-13 ]		Adenoma	
* Spleen [ Fibrosis TGLS = 4-12 ]		Fibrosis	Moderate
* Testes [ Adenoma TGLS = 3-7 ]	Interstit Cell Interstit Cell	Adenoma Hyperplasia	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 436

TRT#: 5

SEX: Male

DAY ON TEST: 637

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27529

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Brain			
Note: "Dilatation" noted at trim was secondary to pituitary tumor.			
* Heart		Cardiomyopathy	Minimal
* Intestine Large, Cecum		Mineralization	Minimal
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 3-5 ]			
* Liver	Bile Duct	Hyperplasia	Mild
* Lung	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Skin		Inflammation	Chronic Active, Moderate
[ Inflammation TGLS = 1-11 ]			
* Spleen		Fibrosis	Mild
[ Fibrosis TGLS = 4-4 ]			
* Testes	Interstit Cell	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 437

TRT#: 5

DOSE: 30 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27530

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Pancreas	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Trachea	* Urinary Bladder		

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Mild
* Kidney	Renal Tubule	Hyperplasia	Moderate
		Nephropathy	Marked
	[ Nephropathy TGLS = 2-5 ]		
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Clear Cell Focus	
		Degeneration	Cystic, Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Mixed Cell Focus	
	[ Mixed Cell Focus TGLS = 2-5 ]		
* Lung	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Minimal
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Mild
* Parathyroid Gland		Adenoma	
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 437	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 30 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27530

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-7 ]			
* Thymus		Thymoma Malignant	
[ Thymoma Malignant TGLS = 1-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH                    -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 438

TRT#: 5

SEX: Male

DAY ON TEST: 213

DOSE: 30 MG/M3

DISP: Natural Death

HISTO: 27531

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * Bone                      | * Bone Marrow            |
| * Brain                    | * Epididymis              | * Esophagus                 | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Kidney                    | * Lung                   |
| * Lymph Node, Bronchial    | * Lymph Node, Mandibular  | * Lymph Node, Mediastinal   | * Lymph Node, Mesenteric |
| * Pancreas                 | * Parathyroid Gland       | * Pituitary Gland           | * Preputial Gland        |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle           | * Skin                   |
| * Spleen                   | * Stomach, Forestomach    | * Stomach, Glandular        | * Testes                 |
| * Thyroid Gland            | * Trachea                 | * Urinary Bladder           |                          |

MISSING

- |                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

OBSERVATIONS

- |   |            |                            |                |
|---|------------|----------------------------|----------------|
| * Bone  |            |                            |                |
| Note: There were no microscopic changes to explain the scoliosis described at necropsy.   |            |                            |                |
| * Heart   |            | Cardiomyopathy             | Mild           |
| * Kidney  |            |                            |                |
| Note: "Focus, 5mm diameter, pale" described at necropsy was adipose tissue on the capsule.  |            |                            |                |
| * Larynx  | Epiglottis | Metaplasia                 | Squamous, Mild |
| * Liver   |            | Hepatodiaphragmatic Nodule |                |
| Note: "Mottled" appearance was due to post mortem pooling of blood in sinusoids.  |            |                            |                |
| [ Hepatodiaphragmatic Nodule TGLS = 5-12 ]  |            |                            |                |
| * Nose  |            | Carcinoma                  |                |
| Note: Origin of carcinoma is uncertain; actually appeared to be outside nasal cavity in bones of head, but couldn't rule out olfactory neuroblastoma. |            |                            |                |
| [ Carcinoma TGLS = 6-10 ]   |            |                            |                |

PRIMARY CAUSE OF DEATH - Nose Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 439

TRT#: 5

SEX: Male

DAY ON TEST: 736

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27532

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney	Renal Tubule	Adenoma	
		Nephropathy	Marked
	[ Nephropathy TGLS = 7-5 ]		
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Degeneration	Fatty, Mild
		Degeneration	Cystic, Mild
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Mild
	[ Degeneration TGLS = 6-4 ]		
* Lung	Alveolar Epith	Hyperplasia	Mild
	Alveolus	Inflammation	Chronic, Minimal
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLS = 2-11 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pancreas		Hyperplasia	Mild
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 439

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 736

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27532

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 1-8 ]

\* Spleen

Fibrosis

Mild

[ Fibrosis TGLS = 5-4 ]

\* Testes

Bilateral, Interstit Cell

Adenoma

[ Adenoma TGLS = 3,4-7 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 440

TRT#: 5

SEX: Male

DAY ON TEST: 477

DOSE: 30 MG/M3

DISP: Natural Death

HISTO: 27533

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                          |                        |                          |
|---------------------------|--------------------------|------------------------|--------------------------|
| * Adrenal Cortex          | * Adrenal Medulla        | * Bone                 | * Bone Marrow            |
| * Brain                   | * Epididymis             | * Esophagus            | * Intestine Large, Colon |
| * Intestine Large, Rectum | * Islets, Pancreatic     | * Lung                 | * Lymph Node, Mandibular |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric | * Pancreas             | * Parathyroid Gland      |
| * Preputial Gland         | * Prostate               | * Salivary Glands      | * Seminal Vesicle        |
| * Skin                    | * Spleen                 | * Stomach, Forestomach | * Stomach, Glandular     |
| * Testes                  | * Thymus                 | * Thyroid Gland        | * Trachea                |
| * Urinary Bladder         |                          |                        |                          |

MISSING

- |                         |                 |
|-------------------------|-----------------|
| * Lymph Node, Bronchial | * Mammary Gland |
|-------------------------|-----------------|

AUTO PRECLUDES DIAG.

- |                          |                             |                          |                            |
|--------------------------|-----------------------------|--------------------------|----------------------------|
| * Intestine Large, Cecum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Larynx                 |                             |                          |                            |

OBSERVATIONS

- |   |                |                |               |
|---|----------------|----------------|---------------|
| * Heart   |                | Cardiomyopathy | Mild          |
| * Int Lg Cecum  |                |                |               |
| Note: "Dark focus" was Peyer's patch.                               |                |                |               |
| * Kidney  |                | Nephropathy    | Mild          |
| * Liver   | Bile Duct      | Hyperplasia    | Minimal       |
| * Lung  |                |                |               |
| Note: Lungs were "mottled red" due to post mortem pooling of blood. |                |                |               |
| * Nose  | Olfactory Epi  | Degeneration   | Hyaline, Mild |
|   | Respirat Epith | Degeneration   | Hyaline, Mild |
| * Pituitary Gland   | Pars Distalis  | Adenoma        |               |
| [ Adenoma TGLS = 3-8 ]  |                |                |               |

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 441

TRT#: 5

SEX: Male

DAY ON TEST: 735

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27534

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Mammary Gland	* Pancreas	* Preputial Gland	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Moderate
		Hypertrophy	Minimal
* Adrenal Medulla		Hyperplasia	Mild
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Moderate
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 5-5 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
[ Basophilic Focus TGLS = 5-5 ]			
[ Leukemia Mononuclear TGLS = 5-5 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Mild
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Prostate		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 441	<b>TRT#:</b> 5 <b>DOSE:</b> 30 MG/M3	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 735 <b>HISTO:</b> 27534
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen [ Leukemia Mononuclear TGLS = 4-12 ]		Leukemia Mononuclear	
* Testes [ Adenoma TGLS = 2-11 ] [ Atrophy TGLS = 3-7 ]	Interstit Cell	Adenoma Atrophy	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 442

TRT#: 5

SEX: Male

DAY ON TEST: 627

DOSE: 30 MG/M3

DISP: Natural Death

HISTO: 27535

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Epididymis	* Esophagus	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Jejunum	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Small, Ileum	* Islets, Pancreatic	* Nose
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OBSERVATIONS

* Brain		Oligodendroglioma Benign	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver	Bile Duct	Basophilic Focus	
		Hyperplasia	Mild
		Leukemia Mononuclear	
* Lung	Alveolus	Inflammation	Chronic, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
		[ Adenoma TGLS = 3-8 ]	
* Prostate		Hyperplasia	Minimal
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
		[ Fibrosis TGLS = 2-11 ]	
		[ Leukemia Mononuclear TGLS = 1-4 ]	

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Brain Oligodendroglioma Benign

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 443

TRT#: 5

SEX: Male

DAY ON TEST: 630

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27536

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Mammary Gland	* Preputial Gland
* Salivary Glands	* Skin	* Thymus	* Thyroid Gland
* Trachea			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-6+13 ]			
* Adrenal Medulla		Leukemia Mononuclear	
* Bone		Hyperostosis	Mild
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
	Endocardium	Hyperplasia	Mild
		Leukemia Mononuclear	
* Kidney		Histiocytic Sarcoma	
		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Basophilic Focus	
		Degeneration	Cystic, Mild
		Eosinophilic Focus	
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
[ Eosinophilic Focus TGLS = 4-12 ]			
[ Hepatodiaphragmatic Nodule TGLS = 4-12 ]			
[ Leukemia Mononuclear TGLS = 3-4 ]			
* Lung		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 443

TRT#: 5

DOSE: 30 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 630

HISTO: 27536

ORGAN AND ACCOUNTABLE SITE STATUS

[ Leukemia Mononuclear TGLS = 4-12 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-6+13 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-6+13 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-6+13 ]			
Mesentery	Fat	Necrosis	Moderate
[ Necrosis TGLS = 5-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
* Pancreas		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-14 ]			
* Parathyroid Gland		Hyperplasia	Minimal
* Pituitary Gland		Leukemia Mononuclear	
* Prostate		Leukemia Mononuclear	
* Seminal Vesicle		Leukemia Mononuclear	
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
[ Fibrosis TGLS = 2-11 ]			
[ Leukemia Mononuclear TGLS = 1-11 ]			
* Stomach, Forestomach		Necrosis	Moderate
* Stomach, Glandular		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
* Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 444

TRT#: 5

SEX: Male

DAY ON TEST: 503

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27537

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver	Bile Duct	Hyperplasia	Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 1-8 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 445

TRT#: 5

SEX: Male

DAY ON TEST: 653

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27538

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Mammary Gland	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular
* Testes	* Thyroid Gland	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear Vacuolization Cytoplasmic	Moderate
* Adrenal Medulla	Bilateral	Leukemia Mononuclear Pheochromocytoma Benign	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
* Kidney	Renal Tubule	Leukemia Mononuclear Hyperplasia	Minimal
* Liver		Leukemia Mononuclear Nephropathy	Moderate
	Bile Duct	Degeneration Hyperplasia	Fatty, Mild Moderate
	Centrilobular	Leukemia Mononuclear Necrosis	Mild
	[ Leukemia Mononuclear TGLS = 5,6-4 ]		
* Lung		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5,6-4 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Infiltration Cellular	Plasma Cell, Moderate
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Leukemia Mononuclear Degeneration	Hyaline, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 445

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 653

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27538

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Respirat Epith	Degeneration Thrombosis Atrophy	Hyaline, Minimal Mild Minimal
* Pancreas			
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 2-8 ]		
* Skin	Subcut Tiss	Fibroma Inflammation	Chronic Active, Moderate
	[ Fibroma TGLS = 1-14 ]		
	[ Inflammation TGLS = 3-7+13 ]		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-12 ]		
* Thymus		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-12 ]		

**PRIMARY CAUSE OF DEATH** - Thymus Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 446

TRT#: 5

SEX: Male

DAY ON TEST: 735

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27539

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Parathyroid Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla	Bilateral	Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Minimal
* Kidney		Cyst	Mild
		Nephropathy	Marked
			[ Cyst TGLS = 4,5-5 ]
			[ Nephropathy TGLS = 6-5 ]
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Hepatocellular Carcinoma	
			[ Basophilic Focus TGLS = 6-5 ]
			[ Hepatocellular Carcinoma TGLS = 7-12 ]
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
* Preputial Gland		Carcinoma	
			[ Carcinoma TGLS = 1-13+7 ]
* Prostate		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 446	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 30 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27539

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
[ Fibrosis TGLS = 3-4 ]			
[ Leukemia Mononuclear TGLS = 3-4 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-7 ]			
* Thyroid Gland	Follicular Cel	Carcinoma	
	C Cell	Hyperplasia	Moderate
[ Carcinoma TGLS = 8-2 ]			

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 447

TRT#: 5

SEX: Male

DAY ON TEST: 553

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27540

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Brain                    | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Mammary Gland             |
| * Pancreas               | * Parathyroid Gland        | * Preputial Gland         | * Prostate                  |
| * Salivary Glands        | * Seminal Vesicle          | * Skin                    | * Thymus                    |
| * Thyroid Gland          | * Trachea                  | * Urinary Bladder         |                             |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                           |   |                      |                  |
|---------------------------|---|----------------------|------------------|
| * Adrenal Cortex          |   | Leukemia Mononuclear |                  |
| * Adrenal Medulla         |   | Leukemia Mononuclear |                  |
| * Bone Marrow             |   | Leukemia Mononuclear |                  |
| * Heart                   |   | Leukemia Mononuclear |                  |
| * Kidney                  |   | Leukemia Mononuclear |                  |
|                           |   | Nephropathy          | Mild             |
| * Larynx                  | Epiglottis                                | Metaplasia           | Squamous, Mild   |
| * Liver                   |   | Degeneration         | Cystic, Mild     |
|                           |   | Degeneration         | Fatty, Mild      |
|                           | Bile Duct                                 | Hyperplasia          | Mild             |
|                           |   | Leukemia Mononuclear |                  |
|                           | Centrilobular                             | Necrosis             | Minimal          |
|                           | [ Leukemia Mononuclear TGLS = 4-4 ]       |                      |                  |
| * Lung                    |   | Leukemia Mononuclear |                  |
|                           | [ Leukemia Mononuclear TGLS = 2-3+3A+11 ] |                      |                  |
| Lymph Node                | Pancreatic                                | Leukemia Mononuclear |                  |
| * Lymph Node, Mandibular  |   | Leukemia Mononuclear |                  |
| * Lymph Node, Mediastinal |   | Leukemia Mononuclear |                  |
| * Lymph Node, Mesenteric  |   | Leukemia Mononuclear |                  |
| * Nose                    | Olfactory Epi                             | Degeneration         | Hyaline, Mild    |
|                           | Respirat Epith                            | Degeneration         | Hyaline, Minimal |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 447	<b>TRT#:</b> 5	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 553
	<b>DOSE:</b> 30 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27540

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pituitary Gland	Pars Distalis	Leukemia Mononuclear Thrombosis Adenoma	Marked
* Spleen		Leukemia Mononuclear Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-12 ]			
* Stomach, Forestomach		Necrosis	Moderate
* Stomach, Glandular		Necrosis	Mild
* Testes	Interstit Cell	Adenoma	

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**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 448

TRT#: 5

DOSE: 30 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 653

HISTO: 27541

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Bronchial	* Mammary Gland
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 4-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Degeneration	Fatty, Minimal
	Bile Duct	Hyperplasia	Minimal
[ Degeneration TGLS = 5-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
Note: "Dark" lungs were due to pooling of blood in normal vasculature.			
[ Inflammation TGLS = 2-3A+11 ]			
Lymph Node	Renal	Hemorrhage	Mild
[ Hemorrhage TGLS = 6-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Testes	Artery	Inflammation	Chronic Active, Mild
* Thyroid Gland	Bilateral, C Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 448

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 653

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27541

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 449

TRT#: 5

SEX: Male

DAY ON TEST: 735

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27542

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mediastinal
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Intestine Large, Cecum		Infiltration Cellular	Mixed Cell, Mild
[ Infiltration Cellular TGLS = 8-13 ]			
* Kidney	Renal Tubule	Hyperplasia	Mild
		Nephropathy	Moderate
[ Nephropathy TGLS = 6-5 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
		Degeneration	Cystic, Minimal
		Eosinophilic Focus	
[ Basophilic Focus TGLS = 6-5 ]			
[ Eosinophilic Focus TGLS = 6-5 ]			
* Lung	Alveolar Epith	Hyperplasia	Moderate
	Alveolus	Inflammation	Chronic, Mild
[ Hyperplasia TGLS = 4-3A ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 3-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 449

**TRT#:** 5

**DOSE:** 30 MG/M3

**SEX:** Male

**DISP:** Terminal Sacrifice

**DAY ON TEST:** 735

**HISTO:** 27542

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pancreas	Respirat Epith	Degeneration	Hyaline, Minimal
* Pituitary Gland [ Adenoma TGLS = 2-8 ]	Pars Distalis	Atrophy	Mild
* Skin [ Fibroma TGLS = 1-11 ]	Subcut Tiss	Adenoma	
* Testes [ Adenoma TGLS = 5,7-7 ]	Bilateral, Interstit Cell	Fibroma	
* Thyroid Gland	C Cell	Adenoma	
PRIMARY CAUSE OF DEATH	-	Hyperplasia	Minimal

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 450

TRT#: 5

DOSE: 30 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 676

HISTO: 27543

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Trachea		

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex [ Leukemia Mononuclear TGLS = 10-14 ]		Leukemia Mononuclear	
* Adrenal Medulla [ Leukemia Mononuclear TGLS = 10-14 ] [ Pheochromocytoma Benign TGLS = 10-14 ]		Hyperplasia Leukemia Mononuclear Pheochromocytoma Benign	Mild
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
* Epididymis		Leukemia Mononuclear	
* Heart		Leukemia Mononuclear	
* Intestine Small, Duodenum [ Leukemia Mononuclear TGLS = 10-14 ]		Leukemia Mononuclear	
* Kidney [ Leukemia Mononuclear TGLS = 7,8-5 ]		Leukemia Mononuclear Nephropathy	Mild
* Liver [ Basophilic Focus TGLS = 7,8-5 ] [ Leukemia Mononuclear TGLS = 9-4 ]	Bile Duct  Centrilobular	Basophilic Focus Hyperplasia Leukemia Mononuclear Necrosis	Moderate  Mild
* Lung		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 450

TRT#: 5

SEX: Male

DAY ON TEST: 676

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27543

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 1-11 ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-12 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-14 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-14 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Leukemia Mononuclear	
		Thrombosis	Mild
* Pancreas		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-12 ]			
* Pituitary Gland		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-12 ]			
* Seminal Vesicle		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-12 ]			
* Skin		Inflammation	Chronic Active, Moderate
[ Inflammation TGLS = 2-13 ]			
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
[ Fibrosis TGLS = 4-12 ]			
[ Leukemia Mononuclear TGLS = 3-12 ]			
* Stomach, Forestomach		Leukemia Mononuclear	
* Stomach, Glandular		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 6-7 ]			
* Thymus		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 450

**TRT#:** 5

**SEX:** Male

**DAY ON TEST:** 676

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27543

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Leukemia Mononuclear TGLS = 6-7 ]

\* Thyroid Gland

C Cell

Adenoma

\* Urinary Bladder

Leukemia Mononuclear

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**PRIMARY CAUSE OF DEATH**

- Spleen Leukemia Mononuclear

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 601

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Natural Death

DAY ON TEST: 635

HISTO: 27394

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear Necrosis	Moderate
* Adrenal Medulla		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Moderate
* Kidney		Leukemia Mononuclear Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver	Bile Duct	Hyperplasia	Moderate
	Centrilobular	Leukemia Mononuclear Necrosis	Moderate
* Lung	Alveolus	Inflammation Leukemia Mononuclear	Chronic, Mild
Note: Exposure-related lesions were somewhat obscured by leukemia.			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose		Chondroma	
	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 601	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 635
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Natural Death	<b>HISTO:</b> 27394

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 4-7 ]			
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
		Leukemia Mononuclear	
[ Hyperplasia TGLS = 1-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-11 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 4-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-7 ]			

---

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 602

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Natural Death

DAY ON TEST: 696

HISTO: 27395

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Salivary Glands	* Seminal Vesicle	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Moderate
* Intestine Small, Duodenum		Necrosis	Marked
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 8-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Degeneration	Fatty, Marked
		Degeneration	Cystic, Minimal
	Bile Duct	Hyperplasia	Mild
[ Degeneration TGLS = 7-12 ]			
* Lung	Alveolus	Inflammation	Chronic, Marked
[ Inflammation TGLS = 2-3+11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Thrombosis	Marked
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Preputial Gland		Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Prostate		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 602

TRT#: 7

SEX: Male

DAY ON TEST: 696

DOSE: 100 MG/M3

DISP: Natural Death

HISTO: 27395

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Skin [ Fibroma TGLS = 1-13 ]	Subcut Tiss	Fibroma	
* Spleen [ Thrombosis TGLS = 6-4 ]		Thrombosis	Moderate
* Stomach, Forestomach [ Necrosis TGLS = 9,10-8 ]		Necrosis	Marked
* Testes [ Adenoma TGLS = 4-7 ] [ Atrophy TGLS = 5-7 ]	Interstit Cell	Adenoma Atrophy	Marked

PRIMARY CAUSE OF DEATH - Stomach, Forestomach Necrosis

CONTRIBUTORY CAUSE OF DEATH - Intestine Small;Duodenum Necrosis;Kidney Nephropathy

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 603

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27396

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone Marrow            | * Brain                    | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Bronchial     |
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  | * Preputial Gland           |
| * Salivary Glands        | * Seminal Vesicle          | * Stomach, Forestomach    | * Thymus                    |
| * Trachea                |                            |                           |                             |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |                   |                     |                                |                       |
|-------------------|---------------------|--------------------------------|-----------------------|
| * Adrenal Cortex  |                     | Hyperplasia                    | Mild                  |
| * Adrenal Medulla |                     | Hyperplasia                    | Moderate              |
| Blood Vessel      | Aorta               | Mineralization                 | Mild                  |
| * Bone            |                     | Fibrous Osteodystrophy         | Moderate              |
| * Heart           |                     | Cardiomyopathy                 | Mild                  |
|                   | Artery              | Mineralization                 | Mild                  |
| * Kidney          |                     | Mineralization                 | Mild                  |
|                   |                     | Nephropathy                    | Marked                |
|                   |                     | [ Nephropathy TGLS = 9-5 ]     |                       |
| * Larynx          | Epiglottis          | Metaplasia                     | Squamous, Mild        |
| * Liver           |                     | Degeneration                   | Fatty, Minimal        |
|                   | Bile Duct           | Eosinophilic Focus             |                       |
|                   |                     | Hyperplasia                    | Moderate              |
|                   |                     | Mixed Cell Focus               |                       |
|                   |                     | [ Hyperplasia TGLS = 8-4 ]     |                       |
| * Lung            | Alveolus            | Inflammation                   | Chronic, Moderate     |
|                   | Artery, Mediastinum | Mineralization                 | Moderate              |
|                   |                     | Mineralization                 | Mild                  |
|                   |                     | [ Inflammation TGLS = 3-3+3A ] |                       |
| Lymph Node        | Iliac               | Infiltration Cellular          | Plasma Cell, Moderate |
|                   | Renal               | Infiltration Cellular          | Plasma Cell, Moderate |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 603

TRT#: 7

SEX: Male

DAY ON TEST: 735

DOSE: 100 MG/M3

DISP: Terminal Sacrifice

HISTO: 27396

ORGAN AND ACCOUNTABLE SITE STATUS

[ Infiltration Cellular TGLS = 11-14 ]			
[ Infiltration Cellular TGLS = 10-13 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 4-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Parathyroid Gland		Hyperplasia	Marked
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Prostate		Inflammation	Chronic Active, Mild
* Skin		Keratoacanthoma	
[ Keratoacanthoma TGLS = 1-11 ]			
* Spleen		Atrophy	Mild
[ Atrophy TGLS = 7-4 ]			
* Stomach, Glandular		Mineralization	Moderate
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 5,6-7 ]			
* Thyroid Gland	C Cell	Carcinoma	
[ Carcinoma TGLS = 12-2 ]			
* Urinary Bladder	Transit Epithe	Hyperplasia	Marked
		Inflammation	Chronic Active, Moderate
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 604

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 621

HISTO: 27397

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Mammary Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Pheochromocytoma Benign	
* Brain		Necrosis	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Degeneration	Cystic, Minimal
	Bile Duct	Hepatocellular Adenoma	
		Hyperplasia	Mild
		Leukemia Mononuclear	
	[ Hepatocellular Adenoma TGLS = 4-12 ]		
* Lung	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Marked
		Leukemia Mononuclear	
	[ Inflammation TGLS = 1-3+11 ]		
	[ Leukemia Mononuclear TGLS = 4-12 ]		
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Leukemia Mononuclear	
* Pancreas		Atrophy	Mild
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:30  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 604	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 621
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27397

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 2-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-4 ]			
* Stomach, Glandular		Necrosis	Mild
* Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
* Thyroid Gland	C Cell	Hyperplasia	Moderate

---

PRIMARY CAUSE OF DEATH	- Pituitary Gland Pars Distalis Adenoma
CONTRIBUTORY CAUSE OF DEATH	- Spleen Leukemia Mononuclear

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 605

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 662

HISTO: 27398

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Mammary Gland
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Trachea	* Urinary Bladder

OBSERVATIONS

* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Marked
* Liver		Degeneration	Cystic, Mild
	Bile Duct	Hepatodiaphragmatic Nodule	
		Hyperplasia	Mild
		Leukemia Mononuclear	
[ Hepatodiaphragmatic Nodule TGLS = 6-13 ]			
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 1,2-12+11+3 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Basophilic Focus	
[ Basophilic Focus TGLS = 1,2-12+11+3 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
[ Fibrosis TGLS = 5-14 ]			
[ Leukemia Mononuclear TGLS = 4-14 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:30

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 605

**TRT#:** 7

**DOSE:** 100 MG/M3

**SEX:** Male

**DISP:** Moribund Sacrifice

**DAY ON TEST:** 662

**HISTO:** 27398

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Mild
* Testes	Interstit Cell	Hyperplasia	Minimal
* Thymus		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Mild

---

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

CONTRIBUTORY CAUSE OF DEATH - Spleen Leukemia Mononuclear

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:30

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 606

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 679

HISTO: 27399

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Brain	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Skin	* Stomach, Forestomach	* Thymus
* Trachea			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Moderate
		Leukemia Mononuclear	
		Pheochromocytoma Benign	
* Bone		Fibrous Osteodystrophy	Moderate
* Bone Marrow		Leukemia Mononuclear	
* Epididymis		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Moderate
* Kidney		Nephropathy	Marked
	[ Nephropathy TGLS = 3-5+12 ]		
* Larynx	Epiglottis	Hyperplasia	Mild
* Liver		Basophilic Focus	
		Degeneration	Cystic, Mild
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-4 ]		
* Lung	Alveolus	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
	[ Inflammation TGLS = 1-3+3A+11 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 606

TRT#: 7

SEX: Male

DAY ON TEST: 679

DOSE: 100 MG/M3

DISP: Moribund Sacrifice

HISTO: 27399

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 4-13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
* Seminal Vesicle		Leukemia Mononuclear	
* Spleen		Leukemia Mononuclear	
* Stomach, Glandular		Mineralization	Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2,6-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH - Kidney Nephropathy

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 607

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27400

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	

INSUFFICIENT TISSUE

\* Intestine Large, Rectum

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
* Adrenal Medulla		Hyperplasia	Moderate
		Pheochromocytoma Malignant	
	[ Pheochromocytoma Malignant TGLS = 5-11 ]		
* Heart		Cardiomyopathy	Moderate
* Islets, Pancreatic		Adenoma	
* Kidney	Renal Tubule	Adenoma	
		Nephropathy	Marked
	[ Nephropathy TGLS = 4-5 ]		
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Eosinophilic Focus	
		Leukemia Mononuclear	
* Lung	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Moderate
	[ Inflammation TGLS = 2-3+3A ]		
* Lymph Node, Mediastinal		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-11 ]		
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLS = 6-12 ]		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 607

TRT#: 7

SEX: Male

DAY ON TEST: 735

DOSE: 100 MG/M3

DISP: Terminal Sacrifice

HISTO: 27400

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Marked Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-8 ]			
* Testes	Bilateral, Interstit Cell Artery	Adenoma Inflammation	Chronic Active, Mild
[ Adenoma TGLS = 3-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-7 ]			
* Thyroid Gland	Follicular Cel	Carcinoma	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 608

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 598

HISTO: 27401

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
* Adrenal Medulla		Leukemia Mononuclear	
	Bilateral	Pheochromocytoma Benign	
* Bone Marrow		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-11 ]		
* Heart		Cardiomyopathy	Minimal
* Kidney		Leukemia Mononuclear	
	[ Nephropathy TGLS = 6-5 ]	Nephropathy	Marked
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Moderate
	Centrilobular	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 6-5 ]	Necrosis	Mild
* Lung	Alveolus	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 3-13+14 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 608

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 598

HISTO: 27401

ORGAN AND ACCOUNTABLE SITE STATUS

* Pancreas		Atrophy	Moderate
* Parathyroid Gland		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Prostate		Inflammation	Chronic Active, Moderate
* Skin	Subcut Tiss	Fibrosarcoma	
Note: Fibrosarcoma on pinna most likely was neural crest tumor (term not available).			
[ Fibrosarcoma TGLS = 1-12 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-11 ]			
* Testes	Interstit Cell	Adenoma	
[ Adenoma TGLS = 4-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH - Kidney Nephropathy;Liver Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 609

TRT#: 7

SEX: Male

DAY ON TEST: 497

DOSE: 100 MG/M3

DISP: Moribund Sacrifice

HISTO: 27402

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Liver	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
[ Nephropathy TGLS = 4-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 1-3 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 3-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 610

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27403

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Stomach, Forestomach	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Mild
* Adrenal Medulla	Bilateral	Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 7-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Degeneration	Cystic, Minimal
[ Basophilic Focus TGLS = 7-5 ]		Hepatocellular Carcinoma	
[ Hepatocellular Carcinoma TGLS = 8-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
[ Inflammation TGLS = 4-3+3A+11 ]			
* Mammary Gland		Galactocele	Moderate
[ Galactocele TGLS = 1-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Moderate
		Mixed Tumor Benign	
[ Mixed Tumor Benign TGLS = 1-14 ]			
* Parathyroid Gland		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 610	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27403

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pituitary Gland [ Adenoma TGLS = 3-8 ]	Pars Distalis	Adenoma	
* Skin [ Fibroma TGLS = 9-16 ] [ Keratoacanthoma TGLS = 2-15 ]	Subcut Tiss	Fibroma Keratoacanthoma	
* Spleen [ Sarcoma TGLS = 6-12,13 ]		Sarcoma	
* Stomach, Glandular		Mineralization	Moderate
* Testes [ Adenoma TGLS = 5-7 ]	Bilateral, Interstit Cell	Adenoma	

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 611

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 645

HISTO: 27404

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Larynx	* Mammary Gland	* Pancreas
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Adrenal Medulla		Hyperplasia	Minimal
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Epididymis		Granuloma Sperm	Mild
* Heart		Cardiomyopathy	Mild
	Atrium	Thrombosis	Moderate
[ Thrombosis TGLS = 4-4 ]			
* Islets, Pancreatic		Adenoma	
[ Adenoma TGLS = 4-4 ]			
* Kidney		Nephropathy	Mild
* Liver		Degeneration	Cystic, Mild
		Degeneration	Fatty, Moderate
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
[ Degeneration TGLS = 9-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
		Thrombosis	Mild
[ Inflammation TGLS = 6,7,8-3 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 611

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 645

HISTO: 27404

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Bronchial [ Leukemia Mononuclear TGLS = 1-7 ]		Leukemia Mononuclear	
* Lymph Node, Mandibular [ Leukemia Mononuclear TGLS = 1-7 ]		Leukemia Mononuclear	
* Lymph Node, Mediastinal [ Leukemia Mononuclear TGLS = 5-2 ]		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration Thrombosis	Hyaline, Moderate Hyaline, Moderate Marked
* Pituitary Gland [ Adenoma TGLS = 3-8 ]	Pars Distalis	Adenoma	
* Prostate		Hyperplasia	Moderate
* Seminal Vesicle		Leukemia Mononuclear	
* Spleen  [ Fibrosis TGLS = 11-4 ] [ Leukemia Mononuclear TGLS = 10-4 ]		Fibrosis Leukemia Mononuclear	Mild
* Stom Forestom Note: There were no microscopic findings to account for the "lesion, 1-2mm, multiple" described at trim.			
* Testes [ Adenoma TGLS = 12-7 ]	Bilateral, Interstit Cell	Adenoma	

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH - Heart Atrium Thrombosis;Islets;Pancreatic Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 612

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 581

HISTO: 27405

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Testes	* Thymus	* Trachea
* Urinary Bladder			

MISSING

* Lymph Node, Bronchial	* Mammary Gland
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
* Lung	Bile Duct	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Moderate
			[ Inflammation TGLS = 2-3 ]
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Moderate
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
			[ Adenoma TGLS = 1-8 ]
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 613

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27406

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Brain                    | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Mammary Gland             |
| * Pancreas               | * Prostate                 | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Trachea                   |
| * Urinary Bladder        |                            |                           |                             |

OBSERVATIONS

- |  |            |  |                                   |
|--|------------|--|-----------------------------------|
| * Adrenal Cortex   |            | Hyperplasia<br>Leukemia Mononuclear                | Mild                              |
| [ Leukemia Mononuclear TGLS = 5-5 ]                                  |            |  |                                   |
| * Adrenal Medulla  |            | Hyperplasia<br>Leukemia Mononuclear                | Moderate                          |
| * Bone Marrow  |            | Leukemia Mononuclear                               |                                   |
| * Heart  |            | Cardiomyopathy                                     | Mild                              |
| * Kidney   |            | Hyperplasia<br>Leukemia Mononuclear<br>Nephropathy | Oncocytic, Moderate<br><br>Marked |
| Note: Adenoma was actually oncocytoma.<br>[ Nephropathy TGLS = 4-5 ] |            |  |                                   |
| * Larynx   | Epiglottis | Metaplasia   | Squamous, Moderate                |
| * Liver  |            | Angiectasis<br>Degeneration<br>Eosinophilic Focus  | Mild<br>Cystic, Minimal           |
|  | Bile Duct  | Hyperplasia<br>Leukemia Mononuclear                | Moderate                          |
| [ Leukemia Mononuclear TGLS = 3-4 ]                                  |            |  |                                   |
| * Lung   | Alveolus   | Inflammation<br>Leukemia Mononuclear               | Chronic, Moderate                 |
| [ Inflammation TGLS = 9-3+3A ]                                       |            |  |                                   |
| * Lymph Node, Bronchial  |            | Leukemia Mononuclear                               |                                   |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 613

TRT#: 7

SEX: Male

DAY ON TEST: 735

DOSE: 100 MG/M3

DISP: Terminal Sacrifice

HISTO: 27406

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 7-13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Parathyroid Gland		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Preputial Gland		Adenoma	
[ Adenoma TGLS = 1-12 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-11 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 8-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 614

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27407

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Parathyroid Gland
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach
* Trachea	* Urinary Bladder		

MISSING

* Mammary Gland	* Thymus
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Moderate
* Islets, Pancreatic		Hyperplasia	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Marked
[ Nephropathy TGLS = 5-5 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Degeneration	Cystic, Minimal
		Degeneration	Fatty, Minimal
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
[ Basophilic Focus TGLS = 5-5 ]			
[ Leukemia Mononuclear TGLS = 4-4 ]			
* Lung	Alveolar Epith Alveolus	Hyperplasia Inflammation	Mild Chronic, Minimal
[ Inflammation TGLS = 6-3+3A ]			
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Marked Hyaline, Mild
* Pancreas		Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 614

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 736

**DOSE:** 100 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27407

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pituitary Gland	Pars Distalis	Adenoma	
* Prostate		Hyperplasia	Mild
* Skin		Squamous Cell Papilloma	
[ Squamous Cell Papilloma TGLS = 7-13 ]			
* Spleen		Accessory Spleen	
		Fibrosis	Moderate
		Leukemia Mononuclear	
[ Accessory Spleen TGLS = 3-12 ]			
[ Fibrosis TGLS = 2-11 ]			
[ Leukemia Mononuclear TGLS = 7-13 ]			
* Stomach, Glandular		Mineralization	Mild
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 615

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27408

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Preputial Gland	* Prostate	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Islets, Pancreatic		Carcinoma	
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
	Bile Duct	Hyperplasia	Mild
* Lung	Alveolus	Inflammation	Chronic, Minimal
[ Inflammation TGLS = 3-3+3A+11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Moderate
* Pancreas		Atrophy	Moderate
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
* Salivary Glands		Atrophy	Moderate
* Spleen		Fibrosis	Moderate
[ Fibrosis TGLS = 1-4+12 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 2-7 ]			
* Thyroid Gland	C Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 615

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 737

**DOSE:** 100 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27408

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 616

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27409

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder		

MISSING

* Mammary Gland	* Thymus
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Moderate
* Heart		Cardiomyopathy	Minimal
* Islets, Pancreatic		Carcinoma	
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 5-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Mild
[ Basophilic Focus TGLS = 5-5 ]			
[ Eosinophilic Focus TGLS = 5-5 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 2-3+3A ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 616	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 736
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27409

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 3,4-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 617

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27410

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone Marrow	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Mild
* Adrenal Medulla		Hyperplasia	Moderate
* Bone		Fibrous Osteodystrophy	Mild
* Heart		Cardiomyopathy	Mild
* Kidney	Pelvis	Inflammation	Acute, Moderate
		Nephropathy	Marked
	[ Nephropathy TGLS = 5-5 ]		
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Mild
* Lung	Alveolus	Inflammation	Chronic, Moderate
	[ Inflammation TGLS = 6-3+3A+11+12 ]		
* Lymph Node, Mandibular		Infiltration Cellular	Plasma Cell, Marked
	[ Infiltration Cellular TGLS = 1-7 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pancreas		Hyperplasia	Moderate
* Parathyroid Gland		Hyperplasia	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 2-8 ]		
* Prostate		Inflammation	Chronic Active, Marked
* Spleen		Fibrosis	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 617

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 736

**DOSE:** 100 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27410

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibrosis TGLS = 3-13 ]

\* Testes

Bilateral, Interstit Cell

Adenoma

[ Adenoma TGLS = 4-7 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

Follicular Cel

Hyperplasia

Mild

\* Urinary Bladder

Inflammation

Chronic Active, Moderate

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 618

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 662

HISTO: 27411

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Mammary Gland	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla	Bilateral	Leukemia Mononuclear Hyperplasia	Moderate
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Minimal
* Kidney		Leukemia Mononuclear	
		Leukemia Mononuclear	
		Nephropathy	Moderate
	[ Nephropathy TGLS = 4-5 ]		
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Mild
	[ Leukemia Mononuclear TGLS = 5-4 ]		
* Lung	Alveolus	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
	[ Inflammation TGLS = 1-3 ]		
Lymph Node	Iliac	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 7-12 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 618

TRT#: 7

SEX: Male

DAY ON TEST: 662

DOSE: 100 MG/M3

DISP: Moribund Sacrifice

HISTO: 27411

ORGAN AND ACCOUNTABLE SITE STATUS

[ Leukemia Mononuclear TGLS = 2-2 ]

\* Lymph Node, Mesenteric

Leukemia Mononuclear

\* Nose

Olfactory Epi  
Respirat Epith

Degeneration

Hyaline, Moderate

Degeneration

Hyaline, Mild

Leukemia Mononuclear

\* Pancreas

Thrombosis

Moderate

Atrophy

Mild

Hyperplasia

Mild

\* Pituitary Gland

Pars Distalis

Adenoma

\* Spleen

Leukemia Mononuclear

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 3-11 ]

\* Testes

Bilateral, Interstit Cell

Adenoma

[ Adenoma TGLS = 6-7 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 619

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Natural Death

DAY ON TEST: 396

HISTO: 27412

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Brain
* Epididymis	* Esophagus	* Intestine Large, Colon	* Intestine Large, Rectum
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

MISSING

* Mammary Gland	* Parathyroid Gland
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AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Pituitary Gland		

OBSERVATIONS

* Bone Marrow [ Leukemia Mononuclear TGLS = 2-2 ]		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear	
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver [ Leukemia Mononuclear TGLS = 5-4 ]		Leukemia Mononuclear	
* Lung [ Leukemia Mononuclear TGLS = 5-4 ]		Leukemia Mononuclear	
Lymph Node [ Leukemia Mononuclear TGLS = 6-13 ]	Renal	Leukemia Mononuclear	
* Lymph Node, Bronchial [ Leukemia Mononuclear TGLS = 1-3 ]		Leukemia Mononuclear	
* Lymph Node, Mandibular [ Leukemia Mononuclear TGLS = 10-7 ]		Leukemia Mononuclear	
* Lymph Node, Mediastinal [ Leukemia Mononuclear TGLS = 2-2 ]		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 619

**TRT#:** 7

**DOSE:** 100 MG/M3

**SEX:** Male

**DISP:** Natural Death

**DAY ON TEST:** 396

**HISTO:** 27412

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 7-6+14 ]

* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pancreas		Leukemia Mononuclear	

[ Leukemia Mononuclear TGLS = 6-13 ]

\* Preputial GI  
Note: "Enlarged" preputial was dilated duct filled with normal secretion.

* Spleen		Hemorrhage	Moderate
		Leukemia Mononuclear	

[ Hemorrhage TGLS = 4-12 ]

[ Leukemia Mononuclear TGLS = 3-11 ]

* Thyroid Gland		Leukemia Mononuclear	
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[ Leukemia Mononuclear TGLS = 8-2 ]

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 620

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 681

HISTO: 27413

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Mammary Gland	* Parathyroid Gland	* Preputial Gland
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Moderate
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-2 ]			
* Heart		Cardiomyopathy	Moderate
* Intestine Large, Cecum		Mineralization	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Marked
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
		Mixed Cell Focus	
* Lung	Alveolus	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
[ Inflammation TGLS = 1-3+11 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 620	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 681
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27413

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 2-8 ]

\* Preputial GI

Note: "Dark lesion" in preputial skin was dilated duct of preputial gland filled with normal secretion.

\* Prostate

Inflammation

Chronic Active, Mild

\* Spleen

Fibroma

Leukemia Mononuclear

[ Fibroma TGLS = 5-12 ]

[ Leukemia Mononuclear TGLS = 4-12 ]

\* Testes

Interstit Cell

Adenoma

\* Thyroid Gland

Follicular Cel

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

CONTRIBUTORY CAUSE OF DEATH - Spleen Leukemia Mononuclear

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 621

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Natural Death

DAY ON TEST: 717

HISTO: 27414

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Testes	* Thyroid Gland	* Trachea	* Urinary Bladder

MISSING

* Larynx	* Lymph Node, Bronchial	* Thymus
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
		Vacuolization Cytoplasmic	Mild
* Adrenal Medulla	Bilateral	Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Mild
	Artery	Mineralization	Minimal
* Intestine Large, Cecum		Hemorrhage	Marked
[ Hemorrhage TGLS = 7-6 ]			
* Kidney	Transit Epithe	Hyperplasia	Mild
		Mineralization	Minimal
		Nephropathy	Marked
[ Nephropathy TGLS = 9-5 ]			
* Liver		Basophilic Focus	
		Degeneration	Cystic, Mild
	Bile Duct	Hyperplasia	Mild
[ Degeneration TGLS = 3-4 ]			
* Lung		Alveolar/Bronchiolar Adenoma	
	Alveolus	Inflammation	Chronic, Moderate
[ Alveolar/Bronchiolar Adenoma TGLS = 1-12 ]			
[ Inflammation TGLS = 1-3+11 ]			
Mesentery	Fat	Necrosis	Minimal
[ Necrosis TGLS = 4-13 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 621

**TRT#:** 7

**DOSE:** 100 MG/M3

**SEX:** Male

**DISP:** Natural Death

**DAY ON TEST:** 717

**HISTO:** 27414

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration Thrombosis Adenoma	Hyaline, Moderate Hyaline, Mild Minimal
* Pancreas [ Adenoma TGLS = 4-13 ]			
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland [ Adenoma TGLS = 2-8 ]	Pars Distalis	Adenoma	
* Spleen [ Fibrosis TGLS = 6-4 ]		Fibrosis	Mild
* Stomach, Forestomach [ Necrosis TGLS = 8-8 ]		Necrosis	Moderate
* Stomach, Glandular		Mineralization	Mild
* Testes Note: "Dark" testis was due to blood pooled in vessels.			

PRIMARY CAUSE OF DEATH - Kidney Nephropathy

CONTRIBUTORY CAUSE OF DEATH - Intestine Large; Cecum Hemorrhage

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>ANIMAL ID:</b> 622	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 715
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27415

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Testes	* Thymus	* Trachea
* Urinary Bladder			

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Minimal
* Adrenal Medulla		Hyperplasia	Mild
		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Mild
* Islets, Pancreatic		Carcinoma	
[ Carcinoma TGLS = 6-12 ]			
* Kidney	Renal Tubule	Hyperplasia	Moderate
		Nephropathy	Marked
[ Nephropathy TGLS = 7-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 2-3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
		Thrombosis	Marked
Oral Mucosa	Pharyngeal	Squamous Cell Papilloma	
[ Squamous Cell Papilloma TGLS = 10-13 ]			
* Parathyroid Gland		Hyperplasia	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Preputial Gland		Inflammation	Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 622	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 715
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27415

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen [ Fibrosis TGLS = 5,8-4+11 ]	Fibrosis	Moderate
* Stomach, Forestomach [ Necrosis TGLS = 9-8 ]	Necrosis	Marked
* Stomach, Glandular	Mineralization Necrosis	Mild Marked
* Testes Note: There was no microscopic finding to account for the "dark" testis noted at necropsy.		
* Thyroid Gland [ Carcinoma TGLS = 1-2 ]	Follicular Cel Carcinoma	

---

PRIMARY CAUSE OF DEATH	- Pituitary Gland Pars Distalis Adenoma
CONTRIBUTORY CAUSE OF DEATH	- Kidney Nephropathy

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 623

TRT#: 7

SEX: Male

DAY ON TEST: 693

DOSE: 100 MG/M3

DISP: Moribund Sacrifice

HISTO: 27416

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Preputial Gland	* Prostate	* Salivary Glands
* Skin	* Stomach, Forestomach	* Thyroid Gland	* Trachea
* Urinary Bladder			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia Leukemia Mononuclear	Mild
[ Leukemia Mononuclear TGLS = 1-14 ]			
* Adrenal Medulla	Bilateral	Leukemia Mononuclear Pheochromocytoma Benign	
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
* Epididymis		Mesothelioma Benign	
* Heart		Cardiomyopathy	Moderate
		Leukemia Mononuclear	
* Kidney	Renal Tubule	Hyperplasia Leukemia Mononuclear Nephropathy	Moderate  Marked
[ Nephropathy TGLS = 11-5 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver	Bile Duct	Hyperplasia Leukemia Mononuclear	Moderate
[ Leukemia Mononuclear TGLS = 15-4 ]			
* Lung	Alveolus	Inflammation Leukemia Mononuclear	Chronic, Minimal
[ Leukemia Mononuclear TGLS = 4-3+3A ]			
Lymph Node	Iliac	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 623

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 693

HISTO: 27416

ORGAN AND ACCOUNTABLE SITE STATUS

Pancreatic  
Renal

Leukemia Mononuclear  
Leukemia Mononuclear  
Leukemia Mononuclear

Note: Lymph nodes with no site were axillary (TGL 2-15) and hepatic (TGL 13-17).

[ Leukemia Mononuclear TGLS = 12-16 ]

[ Leukemia Mononuclear TGLS = 2,13-15+17 ]

[ Leukemia Mononuclear TGLS = 14-18 ]

[ Leukemia Mononuclear TGLS = 17-13 ]

\* Lymph Node, Bronchial

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 1-14 ]

\* Lymph Node, Mandibular

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 1-14 ]

\* Lymph Node, Mediastinal

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 5-2 ]

\* Lymph Node, Mesenteric

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 16-11 ]

\* Nose

Olfactory Epi  
Respirat Epith

Degeneration  
Degeneration  
Leukemia Mononuclear

Hyaline, Moderate  
Hyaline, Mild

[ Leukemia Mononuclear TGLS = 8-7 ]

\* Pancreas

Atrophy  
Leukemia Mononuclear

Moderate

[ Leukemia Mononuclear TGLS = 14-18 ]

\* Parathyroid Gland

Hyperplasia  
Hyperplasia  
Leukemia Mononuclear

Moderate  
Mild

\* Pituitary Gland

Pars Distalis

[ Leukemia Mononuclear TGLS = 6-8 ]

\* Preputial GI

Note: "Mass, 9mm diameter, pale" was dilated duct filled with normal secretion.

\* Seminal Vesicle

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 6-8 ]

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 623

**TRT#:** 7

**DOSE:** 100 MG/M3

**SEX:** Male

**DISP:** Moribund Sacrifice

**DAY ON TEST:** 693

**HISTO:** 27416

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
	[ Fibrosis TGLS = 10-12 ]		
	[ Leukemia Mononuclear TGLS = 9-12 ]		
* Stomach, Glandular		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
		Mesothelioma Benign	
	[ Adenoma TGLS = 8-7 ]		
	[ Mesothelioma Benign TGLS = 9-12 ]		
* Thymus		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 8-7 ]		

---

**PRIMARY CAUSE OF DEATH** - Testes Mesothelioma Benign

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 624

TRT#: 7

SEX: Male

DAY ON TEST: 721

DOSE: 100 MG/M3

DISP: Moribund Sacrifice

HISTO: 27417

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                           |                          |
|----------------------------|---------------------------|---------------------------|--------------------------|
| * Bone                     | * Brain                   | * Epididymis              | * Esophagus              |
| * Intestine Large, Cecum   | * Intestine Large, Colon  | * Intestine Large, Rectum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Lymph Node, Mediastinal | * Parathyroid Gland       | * Preputial Gland        |
| * Prostate                 | * Salivary Glands         | * Seminal Vesicle         | * Skin                   |
| * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                  | * Trachea                |
| * Urinary Bladder          |                           |                           |                          |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |   |            |                         |                    |
|---|------------|-------------------------|--------------------|
| * Adrenal Cortex  |            | Hyperplasia             | Mild               |
|   |            | Leukemia Mononuclear    |                    |
| * Adrenal Medulla   |            | Pheochromocytoma Benign |                    |
| * Bone Marrow   |            | Leukemia Mononuclear    |                    |
| [ Leukemia Mononuclear TGLS = 5-2 ]                               |            |                         |                    |
| * Brain   |            |                         |                    |
| Note: "Dilatation" noted at trim was secondary to pituitary mass. |            |                         |                    |
| * Heart   |            | Cardiomyopathy          | Mild               |
| * Intestine Small, Duodenum                                       |            | Necrosis                | Mild               |
| * Islets, Pancreatic  |            | Carcinoma               |                    |
| [ Carcinoma TGLS = 5-11 ]   |            |                         |                    |
| * Kidney  |            | Cyst                    | Mild               |
|   |            | Leukemia Mononuclear    |                    |
|   |            | Nephropathy             | Moderate           |
| [ Cyst TGLS = 6-12 ]  |            |                         |                    |
| [ Leukemia Mononuclear TGLS = 5-11 ]                              |            |                         |                    |
| [ Nephropathy TGLS = 2-5+12 ]                                     |            |                         |                    |
| * Larynx  | Epiglottis | Metaplasia              | Squamous, Moderate |
| * Liver   |            | Basophilic Focus        |                    |
|   |            | Degeneration            | Cystic, Mild       |
|   |            | Degeneration            | Fatty, Moderate    |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 624

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 721

HISTO: 27417

ORGAN AND ACCOUNTABLE SITE STATUS

	Bile Duct	Eosinophilic Focus Hyperplasia Leukemia Mononuclear	Moderate
	[ Basophilic Focus TGLS = 3-4 ] [ Eosinophilic Focus TGLS = 3-4 ] [ Leukemia Mononuclear TGLS = 3-4 ]		
* Lung	Alveolar Epith Alveolus	Hyperplasia Inflammation Leukemia Mononuclear	Mild Chronic, Mild
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 1-8 ]		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 1-8 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 7-7 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

CONTRIBUTORY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 625

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 551

HISTO: 27418

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Pancreas
* Parathyroid Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

MISSING

\* Mammary Gland

OBSERVATIONS

* Kidney [ Nephropathy TGLS = 4-5 ]		Nephropathy	Marked
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver [ Degeneration TGLS = 3-4 ]		Degeneration	Fatty, Mild
* Lung [ Inflammation TGLS = 5-3+3A ]	Alveolar Epith Alveolus	Hyperplasia Inflammation	Moderate Chronic, Mild
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Mild
* Pituitary Gland [ Adenoma TGLS = 1-8 ]	Pars Distalis	Adenoma	
* Preputial Gland [ Cyst TGLS = 2-11 ]		Cyst	Moderate
* Stomach, Forestomach [ Hyperplasia TGLS = 6-8 ]		Hyperplasia	Squamous, Moderate
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 626

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27419

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Mammary Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Minimal
* Bone			
Note: There was no microscopic finding to explain the "deformity" seen in the sternum at necropsy.			
* Heart		Cardiomyopathy	Mild
* Kidney	Transit Epithe	Hyperplasia	Minimal
		Leukemia Mononuclear	
		Nephropathy	Marked
[ Nephropathy TGLS = 8-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Degeneration	Cystic, Mild
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: "Focus, 1mm diameter, dark" was blood in normal hepatic vasculature.			
* Lung	Alveolus	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-16 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 626

TRT#: 7

SEX: Male

DAY ON TEST: 735

DOSE: 100 MG/M3

DISP: Terminal Sacrifice

HISTO: 27419

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 7-17 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Moderate
* Parathyroid Gland		Hyperplasia	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Skin	Subcut Tiss	Fibroma	
[ Fibroma TGLS = 10-15 ]			
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
[ Fibrosis TGLS = 6-14 ]			
[ Leukemia Mononuclear TGLS = 5-14 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3,4-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 627

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27420

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Brain                    | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Mammary Gland             |
| * Parathyroid Gland      | * Preputial Gland          | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                   | * Stomach, Forestomach     | * Trachea                 |                             |

OBSERVATIONS

- |                   |   |                         |                  |
|-------------------|---|-------------------------|------------------|
| * Adrenal Cortex  |   | Leukemia Mononuclear    |                  |
| * Adrenal Medulla |   | Hyperplasia             | Mild             |
|                   |   | Leukemia Mononuclear    |                  |
|                   |   | Pheochromocytoma Benign |                  |
| * Bone Marrow     |   | Leukemia Mononuclear    |                  |
| * Heart           |   | Cardiomyopathy          | Mild             |
|                   | Atrium                                    | Leukemia Mononuclear    |                  |
|                   |   | Thrombosis              | Minimal          |
| * Kidney          |   | Leukemia Mononuclear    |                  |
|                   |   | Nephropathy             | Mild             |
|                   | [ Nephropathy TGLS = 4-5 ]                |                         |                  |
| * Larynx          | Epiglottis                                | Metaplasia              | Squamous, Mild   |
| * Liver           |   | Eosinophilic Focus      |                  |
|                   | Bile Duct                                 | Hyperplasia             | Moderate         |
|                   |   | Leukemia Mononuclear    |                  |
|                   | [ Leukemia Mononuclear TGLS = 4-5 ]       |                         |                  |
| * Lung            | Alveolar Epith                            | Hyperplasia             | Mild             |
|                   | Alveolus                                  | Inflammation            | Chronic, Minimal |
|                   |   | Leukemia Mononuclear    |                  |
|                   | [ Leukemia Mononuclear TGLS = 3-3+3A+11 ] |                         |                  |
| Lymph Node        | Pancreatic                                | Leukemia Mononuclear    |                  |
|                   | Renal                                     | Leukemia Mononuclear    |                  |
|                   | [ Leukemia Mononuclear TGLS = 6-14 ]      |                         |                  |
|                   | [ Leukemia Mononuclear TGLS = 5-13 ]      |                         |                  |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 627

TRT#: 7

SEX: Male

DAY ON TEST: 737

DOSE: 100 MG/M3

DISP: Terminal Sacrifice

HISTO: 27420

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Respirat Epith	Degeneration	Hyaline, Mild
		Leukemia Mononuclear	
* Pancreas		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 6-14 ]		
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 6-14 ]		
* Prostate		Hyperplasia	Moderate
* Spleen		Fibrosis	Minimal
		Leukemia Mononuclear	
		Necrosis	Mild
	[ Leukemia Mononuclear TGLS = 1-12 ]		
	[ Necrosis TGLS = 7-12 ]		
* Stomach, Glandular		Mineralization	Mild
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 2-7 ]		
* Thymus		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-7 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 628

TRT#: 7

SEX: Male

DAY ON TEST: 736

DOSE: 100 MG/M3

DISP: Terminal Sacrifice

HISTO: 27421

ORGAN AND ACCOUNTABLE SITE STATUS

	Renal	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 11-14 ]		
	[ Leukemia Mononuclear TGLS = 8-15 ]		
	[ Leukemia Mononuclear TGLS = 7-13 ]		
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 2-8 ]		
* Skin		Inflammation	Chronic Active, Moderate
	[ Inflammation TGLS = 3-12 ]		
* Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
* Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal
* Thymus		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 629

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 692

HISTO: 27422

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Bone                     | * Epididymis              | * Esophagus                 | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Mammary Gland             | * Parathyroid Gland      |
| * Prostate                 | * Trachea                 |                             |                          |

MISSING

- \* Thymus

OBSERVATIONS

- |                   |  |                            |                   |
|-------------------|--|----------------------------|-------------------|
| * Adrenal Cortex  |  | Leukemia Mononuclear       |                   |
| * Adrenal Medulla |  | Leukemia Mononuclear       |                   |
|                   |  | Pheochromocytoma Benign    |                   |
|                   |  | Pheochromocytoma Malignant |                   |
|                   | [ Pheochromocytoma Benign TGLS = 7-5 ]     |                            |                   |
|                   | [ Pheochromocytoma Malignant TGLS = 7-5 ]  |                            |                   |
| * Bone Marrow     |  | Leukemia Mononuclear       |                   |
| * Brain           |  | Leukemia Mononuclear       |                   |
| * Heart           |  | Leukemia Mononuclear       |                   |
|                   | Atrium                                     | Thrombosis                 | Mild              |
| * Kidney          |  | Leukemia Mononuclear       |                   |
|                   |  | Nephropathy                | Mild              |
|                   | [ Leukemia Mononuclear TGLS = 6-5 ]        |                            |                   |
| * Larynx          | Epiglottis                                 | Metaplasia                 | Squamous, Minimal |
| * Liver           |  | Degeneration               | Cystic, Mild      |
|                   |  | Degeneration               | Fatty, Mild       |
|                   |  | Eosinophilic Focus         |                   |
|                   |  | Hepatodiaphragmatic Nodule |                   |
|                   | Bile Duct                                  | Hyperplasia                | Mild              |
|                   |  | Leukemia Mononuclear       |                   |
|                   | Centrilobular                              | Necrosis                   | Minimal           |
|                   | [ Hepatodiaphragmatic Nodule TGLS = 5-12 ] |                            |                   |
|                   | [ Leukemia Mononuclear TGLS = 6-5 ]        |                            |                   |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 629

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 692

HISTO: 27422

ORGAN AND ACCOUNTABLE SITE STATUS

* Lung [ Inflammation TGLS = 1-3+3A+11 ]	Alveolus	Inflammation	Chronic, Minimal
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal [ Leukemia Mononuclear TGLS = 7-5 ]		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration Leukemia Mononuclear	Hyaline, Moderate Hyaline, Mild
* Pancreas [ Leukemia Mononuclear TGLS = 1-3+3A+11 ]		Thrombosis Atrophy Leukemia Mononuclear	Mild Mild
* Pituitary Gland		Leukemia Mononuclear	
* Preputial Gland		Leukemia Mononuclear	
* Salivary Glands		Leukemia Mononuclear	
* Seminal Vesicle		Leukemia Mononuclear	
* Skin [ Squamous Cell Carcinoma TGLS = 2-14 ]		Leukemia Mononuclear Squamous Cell Carcinoma	
* Spleen [ Leukemia Mononuclear TGLS = 4-13 ]		Leukemia Mononuclear	
* Stomach, Forestomach [ Leukemia Mononuclear TGLS = 7-5 ]		Leukemia Mononuclear	
* Stomach, Glandular [ Leukemia Mononuclear TGLS = 7-5 ]		Leukemia Mononuclear	
* Testes [ Adenoma TGLS = 3-7 ] [ Leukemia Mononuclear TGLS = 4-13 ]	Bilateral, Interstit Cell	Adenoma Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 629

**TRT#:** 7

**DOSE:** 100 MG/M3

**SEX:** Male

**DISP:** Moribund Sacrifice

**DAY ON TEST:** 692

**HISTO:** 27422

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**ORGAN AND ACCOUNTABLE SITE STATUS**

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

\* Urinary Bladder

Leukemia Mononuclear

---

**PRIMARY CAUSE OF DEATH**

- Testes Leukemia Mononuclear

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 630

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 693

HISTO: 27423

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Parathyroid Gland
* Preputial Gland	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Glandular	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
* Adrenal Medulla	Bilateral	Hyperplasia	Moderate
		Leukemia Mononuclear	
		Pheochromocytoma Benign	
* Bone Marrow		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 7-5 ]		
* Heart		Cardiomyopathy	Mild
* Kidney		Leukemia Mononuclear	
	[ Nephropathy TGLS = 7-5 ]	Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Degeneration	Fatty, Mild
	Bile Duct	Hyperplasia	Moderate
	Centrilobular	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 6-4 ]	Necrosis	Minimal
* Lung	Alveolus	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
	[ Inflammation TGLS = 4-3+3A ]		
Lymph Node	Pancreatic	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 8-13 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 630

**TRT#:** 7

**DOSE:** 100 MG/M3

**SEX:** Male

**DISP:** Moribund Sacrifice

**DAY ON TEST:** 693

**HISTO:** 27423

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Galactoceles	Moderate
[ Galactoceles TGLS = 1-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Prostate		Hyperplasia	Minimal
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-11 ]			
* Stomach, Forestomach		Hyperplasia	Squamous, Marked
* Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Minimal
[ Adenoma TGLS = 3-7 ]			
* Thymus		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Carcinoma	
	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 631

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27424

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Epididymis	* Esophagus	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Mammary Gland	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 13-6 ]			
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 13-6 ]		Pheochromocytoma Benign	
* Bone Marrow		Leukemia Mononuclear	
* Brain		Necrosis	Moderate
* Heart		Cardiomyopathy	Moderate
	Atrium	Thrombosis	Marked
[ Thrombosis TGLS = 14-4 ]			
* Intestine Large, Cecum		Leiomyoma	
[ Leiomyoma TGLS = 13-6 ]			
* Intestine Small, Ileum		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 13-6 ]			
* Kidney		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 14-4 ]		Nephropathy	Marked
[ Nephropathy TGLS = 6-5 ]			
* Liver		Degeneration	Cystic, Mild
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
		Mixed Cell Focus	
	Centrilobular	Necrosis	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 631

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27424

ORGAN AND ACCOUNTABLE SITE STATUS

[ Leukemia Mononuclear TGLS = 3-4 ] [ Mixed Cell Focus TGLS = 4-4 ]			
* Lung	Alveolus	Inflammation Leukemia Mononuclear	Chronic, Mild
Note: Exposure-related lesions were somewhat obscured by the leukemia.			
[ Inflammation TGLS = 10,11-3A+3 ]			
Lymph Node	Renal	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-13 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 12-6+12 ]			
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration Leukemia Mononuclear	Hyaline, Marked Hyaline, Mild
* Pancreas		Thrombosis Atrophy Leukemia Mononuclear	Moderate Minimal
[ Leukemia Mononuclear TGLS = 9-13 ]			
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
[ Adenoma TGLS = 2-8 ]			
[ Leukemia Mononuclear TGLS = 2-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-11 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 7,8-7 ]			
* Thymus		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 631	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27424

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 7,8-7 ]

* Thyroid Gland	C Cell	Hyperplasia	Mild
* Urinary Bladder		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 632

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 674

HISTO: 27425

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Lymph Node, Bronchial	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Parathyroid Gland	* Preputial Gland	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Islets, Pancreatic		Adenoma	
* Kidney	Renal Tubule	Hyperplasia	Mild
		Nephropathy	Moderate
	[ Nephropathy TGLS = 3-5 ]		
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Degeneration	Cystic, Minimal
	Bile Duct	Hyperplasia	Minimal
* Lung	Alveolus	Inflammation	Chronic, Moderate
	[ Inflammation TGLS = 1-3+3A ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
		Thrombosis	Marked
	[ Thrombosis TGLS = 4-11 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 2-8 ]		
* Prostate		Inflammation	Chronic Active, Moderate
* Testes	Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 632	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 674
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27425

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Pituitary Gland Pars Distalis Adenoma		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 633

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 673

HISTO: 27426

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone Marrow	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Salivary Glands	* Seminal Vesicle
* Skin	* Spleen	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder		

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla	Bilateral	Hyperplasia	Marked
Blood Vessel	Aorta	Mineralization	Mild
* Bone		Fibrous Osteodystrophy	Mild
* Heart		Cardiomyopathy	Moderate
	Artery	Mineralization	Mild
* Kidney		Mineralization	Mild
		Nephropathy	Marked
	[ Nephropathy TGLS = 4-5 ]		
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Degeneration	Cystic, Mild
	Bile Duct	Hyperplasia	Minimal
	[ Degeneration TGLS = 5-4 ]		
* Lung	Alveolus	Inflammation	Chronic, Moderate
	Artery, Mediastinum	Mineralization	Mild
		Mineralization	Minimal
	[ Inflammation TGLS = 1-3+3A ]		
* Lymph Node, Mediastinal		Hemorrhage	Mild
	[ Hemorrhage TGLS = 7-2 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 633

**TRT#:** 7

**DOSE:** 100 MG/M3

**SEX:** Male

**DISP:** Moribund Sacrifice

**DAY ON TEST:** 673

**HISTO:** 27426

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pancreas		Hyperplasia	Mild
* Parathyroid Gland [ Hyperplasia TGLS = 6-2 ]		Hyperplasia	Moderate
* Pituitary Gland [ Adenoma TGLS = 2-8 ]	Pars Distalis	Adenoma	
* Preputial Gland		Inflammation	Chronic Active, Moderate
* Prostate		Hyperplasia	Minimal
* Stomach, Forestomach [ Necrosis TGLS = 9-8 ]		Necrosis	Marked
* Stomach, Glandular		Mineralization	Moderate
* Testes [ Adenoma TGLS = 3,8-7 ]	Bilateral, Interstit Cell	Adenoma	
PRIMARY CAUSE OF DEATH	- Kidney Nephropathy		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 634

TRT#: 7

SEX: Male

DAY ON TEST: 660

DOSE: 100 MG/M3

DISP: Moribund Sacrifice

HISTO: 27427

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                          |                           |                             |
|----------------------------|--------------------------|---------------------------|-----------------------------|
| * Bone                     | * Brain                  | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum   | * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Jejunum | * Islets, Pancreatic     | * Parathyroid Gland       | * Prostate                  |
| * Salivary Glands          | * Skin                   | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Trachea                  | * Urinary Bladder        |                           |                             |

MISSING

- |                 |          |
|-----------------|----------|
| * Mammary Gland | * Thymus |
|-----------------|----------|

OBSERVATIONS

- |                                     |               |                         |                     |
|-------------------------------------|---------------|-------------------------|---------------------|
| * Adrenal Cortex                    |               | Leukemia Mononuclear    |                     |
| * Adrenal Medulla                   |               | Leukemia Mononuclear    |                     |
|                                     |               | Pheochromocytoma Benign |                     |
| * Bone Marrow                       |               | Leukemia Mononuclear    |                     |
| [ Leukemia Mononuclear TGLS = 7-2 ] |               |                         |                     |
| * Heart                             |               | Cardiomyopathy          | Mild                |
|                                     |               | Leukemia Mononuclear    |                     |
| [ Leukemia Mononuclear TGLS = 7-2 ] |               |                         |                     |
| * Intestine Small, Ileum            |               | Leukemia Mononuclear    |                     |
| * Kidney                            |               | Hyperplasia             | Oncocytic, Moderate |
|                                     |               | Leukemia Mononuclear    |                     |
|                                     |               | Nephropathy             | Moderate            |
| * Larynx                            | Epiglottis    | Metaplasia              | Squamous, Minimal   |
| * Liver                             |               | Degeneration            | Cystic, Mild        |
|                                     | Bile Duct     | Hyperplasia             | Moderate            |
|                                     |               | Leukemia Mononuclear    |                     |
|                                     | Centrilobular | Necrosis                | Minimal             |
| [ Leukemia Mononuclear TGLS = 8-4 ] |               |                         |                     |
| * Lung                              | Alveolus      | Inflammation            | Chronic, Moderate   |
|                                     |               | Leukemia Mononuclear    |                     |
| [ Inflammation TGLS = 3-3+3A ]      |               |                         |                     |
| Lymph Node                          | Pancreatic    | Leukemia Mononuclear    |                     |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 634

TRT#: 7

SEX: Male

DAY ON TEST: 660

DOSE: 100 MG/M3

DISP: Moribund Sacrifice

HISTO: 27427

ORGAN AND ACCOUNTABLE SITE STATUS

	Renal	Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 9-12 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Moderate
		Leukemia Mononuclear	
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
* Preputial Gland		Hyperplasia	Mild
	[ Hyperplasia TGLS = 4-7 ]		
* Seminal Vesicle		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-7 ]		
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
	[ Fibrosis TGLS = 7-11 ]		
	[ Leukemia Mononuclear TGLS = 6-11 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 5-7 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 635

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 679

HISTO: 27428

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Epididymis              | * Esophagus                 | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Parathyroid Gland         | * Preputial Gland        | * Prostate                 |
| * Salivary Glands         | * Stomach, Forestomach      | * Stomach, Glandular     | * Thyroid Gland            |
| * Trachea                 |                             |                          |                            |

MISSING

- \* Mammary Gland

INSUFFICIENT TISSUE

- \* Skin

OBSERVATIONS

- |                   |                                      |   |                   |
|-------------------|--------------------------------------|---|-------------------|
| * Adrenal Cortex  |                                      | Hyperplasia<br>Leukemia Mononuclear                           | Minimal           |
|                   | [ Leukemia Mononuclear TGLS = 3-16 ] |   |                   |
| * Adrenal Medulla |                                      | Hyperplasia<br>Leukemia Mononuclear<br>Fibrous Osteodystrophy | Moderate<br>Mild  |
| * Bone            |                                      | Leukemia Mononuclear  |                   |
| * Bone Marrow     |                                      | Leukemia Mononuclear  |                   |
| * Brain           |                                      | Leukemia Mononuclear  |                   |
| * Heart           |                                      | Cardiomyopathy<br>Leukemia Mononuclear                        | Mild              |
| * Kidney          |                                      | Leukemia Mononuclear<br>Nephropathy                           | Moderate          |
| * Larynx          | Epiglottis                           | Metaplasia  | Squamous, Minimal |
| * Liver           | Bile Duct                            | Hyperplasia<br>Leukemia Mononuclear                           | Moderate          |
|                   | [ Leukemia Mononuclear TGLS = 12-4 ] |   |                   |
| * Lung            | Alveolus                             | Inflammation<br>Leukemia Mononuclear                          | Chronic, Moderate |

Note: Exposure-related lesions were somewhat obscured by leukemia.

[ Inflammation TGLS = 4-11 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 635

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 679

HISTO: 27428

ORGAN AND ACCOUNTABLE SITE STATUS

[ Leukemia Mononuclear TGLS = 4-11 ]			
Lymph Node	Iliac	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 15-17 ]			
[ Leukemia Mononuclear TGLS = 13-15 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-16 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-16 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-2 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 14-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
		Inflammation	Suppurative, Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10,11-7 ]			
* Pancreas		Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 15-17 ]			
* Pituitary Gland		Leukemia Mononuclear	
* Seminal Vesicle		Leukemia Mononuclear	
* Spleen		Fibroma	
		Fibrosis	Moderate
		Leukemia Mononuclear	
[ Fibroma TGLS = 8-4 ]			
[ Fibrosis TGLS = 9-13 ]			
[ Leukemia Mononuclear TGLS = 7-12 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 10,11-7 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 635

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 679

**DOSE:** 100 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27428

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**ORGAN AND ACCOUNTABLE SITE STATUS**

\* Thymus

[ Leukemia Mononuclear TGLS = 10,11-7 ]

Leukemia Mononuclear

\* Urinary Bladder

[ Leukemia Mononuclear TGLS = 10,11-7 ]

Leukemia Mononuclear

---

**PRIMARY CAUSE OF DEATH**

- Spleen Leukemia Mononuclear

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 636

TRT#: 7

SEX: Male

DAY ON TEST: 732

DOSE: 100 MG/M3

DISP: Moribund Sacrifice

HISTO: 27429

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Epididymis	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Parathyroid Gland	* Preputial Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Bronchial	* Mammary Gland	* Pituitary Gland
-------------------------	-----------------	-------------------

OBSERVATIONS

* Adrenal Cortex		Atrophy	Moderate
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Degeneration	Cystic, Minimal
	Bile Duct	Hyperplasia	Minimal
* Lung	Alveolus	Inflammation	Chronic, Moderate
	[ Inflammation TGLS = 4-3+3A ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Inflammation	Suppurative, Moderate
* Pancreas		Atrophy	Moderate
* Skin	Subcut Tiss	Fibroma	
	[ Fibroma TGLS = 1-12+13 ]		
* Spleen		Fibrosis	Mild
	[ Fibrosis TGLS = 2-11 ]		
* Testes	Bilateral, Interstit Cell	Adenoma	
	[ Adenoma TGLS = 3-7 ]		
* Thyroid Gland	C Cell	Adenoma	
	Follicular Cel	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 636

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 100 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27429

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Skin Subcut Tiss Fibroma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 637

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 721

HISTO: 27430

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Parathyroid Gland
* Prostate	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia Vacuolization Cytoplasmic	Mild Minimal
* Adrenal Medulla		Hyperplasia	Mild
* Brain		Hemorrhage	Moderate
[ Hemorrhage TGLS = 6-1 ]			
* Heart		Cardiomyopathy	Mild
* Kidney	Renal Tubule	Hyperplasia Hyperplasia Nephropathy	Mild Oncocytic, Mild Marked
[ Nephropathy TGLS = 4-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Marked
* Liver		Angiectasis Basophilic Focus Degeneration Degeneration Leukemia Mononuclear	Mild Cystic, Mild Fatty, Mild
[ Basophilic Focus TGLS = 4-5 ]			
[ Degeneration TGLS = 5-12 ]			
[ Leukemia Mononuclear TGLS = 4-5 ]			
* Lung	Alveolus	Alveolar/Bronchiolar Adenoma Inflammation Leukemia Mononuclear	Chronic, Moderate
[ Inflammation TGLS = 1-3+3A ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 637

**TRT#:** 7

**DOSE:** 100 MG/M3

**SEX:** Male

**DISP:** Moribund Sacrifice

**DAY ON TEST:** 721

**HISTO:** 27430

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Lymph Node, Bronchial		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
		Hyperplasia	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Preputial Gland		Inflammation	Chronic Active, Mild
* Salivary Glands		Atrophy	Mild
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-11 ]			
* Testes	Artery	Inflammation	Chronic Active, Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Pituitary Gland Pars Distalis Adenoma		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 638

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 618

HISTO: 27431

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
* Adrenal Medulla		Hyperplasia	Mild
		Pheochromocytoma Benign	
* Bone Marrow		Squamous Cell Carcinoma	Metastatic (Skin)
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 5-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
[ Basophilic Focus TGLS = 5-5 ]			
[ Hepatodiaphragmatic Nodule TGLS = 4-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Moderate
		Squamous Cell Carcinoma	Metastatic (Skin)
[ Inflammation TGLS = 10-3+3A+13 ]			
* Lymph Node, Mandibular		Infiltration Cellular	Plasma Cell, Moderate
[ Infiltration Cellular TGLS = 1-7 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 7-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Squamous Cell Carcinoma	Metastatic (Skin)

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 638

**TRT#:** 7

**DOSE:** 100 MG/M3

**SEX:** Male

**DISP:** Moribund Sacrifice

**DAY ON TEST:** 618

**HISTO:** 27431

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Skin		Squamous Cell Carcinoma	
[ Squamous Cell Carcinoma TGLS = 2-11+12 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-14 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH - Skin Squamous Cell Carcinoma

CONTRIBUTORY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 639

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27432

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Parathyroid Gland	* Prostate	* Salivary Glands
* Seminal Vesicle	* Skin	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
* Adrenal Medulla		Hyperplasia	Moderate
* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Adenoma	
		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Mild
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 4-3+3A ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Preputial Gland		Carcinoma	
[ Carcinoma TGLS = 1-12 ]			
* Spleen		Fibrosis	Mild
* Stomach, Glandular		Mineralization	Minimal
* Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 639	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27432

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 3-7+11 ]

\* Thyroid Gland

Follicular Cel  
C Cell

Adenoma  
Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 640

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 665

HISTO: 27433

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Preputial Gland
* Seminal Vesicle	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

MISSING

\* Mammary Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Mild
* Adrenal Medulla		Hyperplasia	Moderate
* Heart		Alveolar/Bronchiolar Carcinoma	Metastatic (Lung)
		Cardiomyopathy	Minimal
Note: Pericardial sac was dilated secondary to massive neoplasm in thorax.			
* Kidney		Accumulation, Hyaline Droplet	Marked
		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Degeneration	Cystic, Mild
	Bile Duct	Hyperplasia	Mild
* Lung	Mediastinum	Alveolar/Bronchiolar Carcinoma	Metastatic (Lung)
		Alveolar/Bronchiolar Carcinoma	
	Alveolus	Inflammation	Chronic, Mild
	[ Alveolar/Bronchiolar Carcinoma TGLS = 2-3+3A+13 ]		
	[ Alveolar/Bronchiolar Carcinoma TGLS = 1-12+3+14 ]		
	[ Inflammation TGLS = 3-3+3A ]		
Mesentery	Fat	Necrosis	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 640

**TRT#:** 7

**DOSE:** 100 MG/M3

**SEX:** Male

**DISP:** Moribund Sacrifice

**DAY ON TEST:** 665

**HISTO:** 27433

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Necrosis TGLS = 7-11 ]

* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Mild
* Prostate		Hyperplasia	Minimal
* Salivary Glands		Atrophy	Mild
* Testes	Bilateral, Interstit Cell	Adenoma	

[ Adenoma TGLS = 5,6-7 ]

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**PRIMARY CAUSE OF DEATH**

- Lung Alveolar/Bronchiolar Carcinoma

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 641

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 736

**DOSE:** 100 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27434

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Brain	* Epididymis	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-6 ]			
* Adrenal Medulla		Hyperplasia	Moderate
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
* Kidney	Transit Epithe	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Nephropathy TGLS = 7-5 ]		Nephropathy	Moderate
* Liver		Eosinophilic Focus	
		Hepatocellular Carcinoma	
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
[ Hepatocellular Carcinoma TGLS = 8-11 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
[ Inflammation TGLS = 1-3+3A ]			
[ Leukemia Mononuclear TGLS = 8-11 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-6 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 641

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27434

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mandibular [ Leukemia Mononuclear TGLS = 10-6 ]		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric [ Leukemia Mononuclear TGLS = 10-6 ]		Leukemia Mononuclear	
Mesentery [ Necrosis TGLS = 4,9-13+14 ]	Fat	Necrosis	Moderate
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration Inflammation Leukemia Mononuclear	Hyaline, Moderate Hyaline, Mild Suppurative, Moderate
* Pituitary Gland [ Adenoma TGLS = 2-8 ]	Pars Distalis	Adenoma	
* Spleen [ Leukemia Mononuclear TGLS = 5,6-12 ]		Leukemia Mononuclear	
* Testes [ Adenoma TGLS = 3-7 ]	Bilateral, Interstit Cell	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 642

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 706

HISTO: 27435

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Epididymis               | * Esophagus               | * Heart                     |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Parathyroid Gland      | * Prostate                 | * Salivary Glands         | * Seminal Vesicle           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Trachea                | * Urinary Bladder          |                           |                             |

MISSING

- |                         |                 |
|-------------------------|-----------------|
| * Lymph Node, Bronchial | * Mammary Gland |
|-------------------------|-----------------|

OBSERVATIONS

- |                   |   |                            |                   |
|-------------------|---|----------------------------|-------------------|
| * Adrenal Cortex  |   | Leukemia Mononuclear       |                   |
| * Adrenal Medulla |   | Hyperplasia                | Mild              |
| * Bone Marrow     |   | Leukemia Mononuclear       |                   |
| * Brain           |   | Leukemia Mononuclear       |                   |
| * Kidney          |   | Leukemia Mononuclear       |                   |
|                   |   | Nephropathy                | Moderate          |
| * Larynx          | Epiglottis                                  | Inflammation               | Chronic, Minimal  |
|                   | Epiglottis                                  | Metaplasia                 | Squamous, Minimal |
| * Liver           |   | Degeneration               | Fatty, Mild       |
|                   |   | Hepatodiaphragmatic Nodule |                   |
|                   | Bile Duct                                   | Hyperplasia                | Moderate          |
|                   |   | Leukemia Mononuclear       |                   |
|                   | Centrilobular                               | Necrosis                   | Minimal           |
|                   | [ Hepatodiaphragmatic Nodule TGLS = 10-12 ] |                            |                   |
|                   | [ Leukemia Mononuclear TGLS = 9-4 ]         |                            |                   |
| * Lung            |   | Hemorrhage                 | Mild              |
|                   | Alveolus                                    | Inflammation               | Chronic, Moderate |
|                   |   | Leukemia Mononuclear       |                   |
|                   | [ Hemorrhage TGLS = 2-11 ]                  |                            |                   |
|                   | [ Inflammation TGLS = 1-3+3A ]              |                            |                   |
|                   | [ Leukemia Mononuclear TGLS = 10-12 ]       |                            |                   |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 642

TRT#: 7

SEX: Male

DAY ON TEST: 706

DOSE: 100 MG/M3

DISP: Moribund Sacrifice

HISTO: 27435

**ORGAN AND ACCOUNTABLE SITE STATUS**

Lymph Node [ Leukemia Mononuclear TGLS = 11-14 ]	Renal	Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Mild
* Pancreas		Thrombosis	Moderate
* Pituitary Gland [ Hyperplasia TGLS = 3-8 ]	Pars Distalis	Atrophy Hyperplasia	Moderate Moderate
* Preputial Gland [ Adenoma TGLS = 4-7 ]		Adenoma	
* Spleen [ Fibrosis TGLS = 8-13 ] [ Leukemia Mononuclear TGLS = 7-13 ]		Fibrosis Leukemia Mononuclear	Mild
* Testes [ Adenoma TGLS = 5,6-7 ]	Bilateral, Interstit Cell	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 643

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27436

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Mammary Gland	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	

MISSING

\* Thymus

OBSERVATIONS

* Adrenal Cortex		Hyperplasia Leukemia Mononuclear	Mild
* Adrenal Medulla		Hyperplasia	Moderate
* Heart		Cardiomyopathy	Mild
* Kidney		Leukemia Mononuclear Nephropathy	Marked
[ Nephropathy TGLS = 5-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus Degeneration	Cystic, Mild
	Bile Duct	Hyperplasia Leukemia Mononuclear	Mild
[ Basophilic Focus TGLS = 5-5 ]			
[ Degeneration TGLS = 6-4 ]			
[ Leukemia Mononuclear TGLS = 5-5 ]			
* Lung	Alveolus	Alveolar/Bronchiolar Adenoma Inflammation Leukemia Mononuclear	Chronic, Moderate
[ Alveolar/Bronchiolar Adenoma TGLS = 6-4 ]			
[ Inflammation TGLS = 2-3+3A ]			
[ Leukemia Mononuclear TGLS = 6-4 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 643

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27436

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-11 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 644	<b>TRT#:</b> 7	<b>SEX:</b> Male	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27437

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pituitary Gland [ Adenoma TGLS = 2-8 ]	Pars Distalis	Adenoma	
* Spleen [ Leukemia Mononuclear TGLS = 2-8 ]		Leukemia Mononuclear	
* Testes [ Adenoma TGLS = 4-7 ] [ Atrophy TGLS = 5-7 ]	Interstit Cell	Adenoma Atrophy	Marked
* Thyroid Gland [ Carcinoma TGLS = 1-2 ]	C Cell	Carcinoma	

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 645

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27438

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Epididymis
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Mammary Gland	* Parathyroid Gland	* Preputial Gland	* Prostate
* Salivary Glands	* Seminal Vesicle	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mesenteric
--------------------------	--------------------------

OBSERVATIONS

* Adrenal Cortex		Hyperplasia Leukemia Mononuclear	Mild
* Adrenal Medulla		Hyperplasia Leukemia Mononuclear Pheochromocytoma Benign	Mild
* Bone			
Note: The "deformity" of the sternum seen at necropsy was not apparent microscopically.			
* Heart		Cardiomyopathy	Mild
* Kidney	Transit Epithe	Hyperplasia Leukemia Mononuclear Metaplasia Nephropathy	Mild  Minimal Marked
			[ Metaplasia TGLS = 11-5 ] [ Nephropathy TGLS = 8-5 ]
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus Degeneration	Cystic, Mild
	Bile Duct	Hyperplasia Leukemia Mononuclear	Minimal
			[ Basophilic Focus TGLS = 9-4 ] [ Leukemia Mononuclear TGLS = 9-4 ]

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 645

TRT#: 7

SEX: Male

DAY ON TEST: 735

DOSE: 100 MG/M3

DISP: Terminal Sacrifice

HISTO: 27438

ORGAN AND ACCOUNTABLE SITE STATUS

* Lung	Alveolus	Inflammation Leukemia Mononuclear	Chronic, Moderate
[ Inflammation TGLS = 3-3+3A ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Moderate
* Pancreas	Artery	Atrophy Inflammation	Mild Marked
[ Inflammation TGLS = 10-6 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 4-8 ]			
* Skin		Hyperkeratosis	Mild
[ Hyperkeratosis TGLS = 1-11 ]			
* Spleen		Fibrosis Leukemia Mononuclear	Moderate
[ Fibrosis TGLS = 7-4 ]			
[ Leukemia Mononuclear TGLS = 6-4+12 ]			
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 5,12-7 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 646

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 406

HISTO: 27439

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Epididymis	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Liver	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Parathyroid Gland
* Preputial Gland	* Prostate	* Salivary Glands	* Seminal Vesicle
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Testes
* Thymus	* Trachea	* Urinary Bladder	

MISSING

\* Mammary Gland

OBSERVATIONS

Eye		Degeneration	Moderate
Note: Degeneration includes moderate cataract, marked retinal atrophy, and synechia.			
[ Degeneration TGLS = 4-13 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Minimal
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Lung	Alveolus	Inflammation	Chronic, Moderate
Note: "Dark" lungs were due to blood in normal pulmonary vasculature.			
[ Inflammation TGLS = 2-3 ]			
* Lym Node Mesen			
Note: "Enlarged, 2-3mm diameter, pale" lymph nodes were within normal limits microscopically.			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Respirat Epith	Degeneration	Hyaline, Moderate
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
* Skin		Inflammation	Chronic Active, Moderate
	Subcut Tiss	Sarcoma	
[ Sarcoma TGLS = 1-11+12 ]			
* Thyroid Gland	Follicular Cel	Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 646

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 406

**DOSE:** 100 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27439

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Skin Subcut Tiss Sarcoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 647

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Natural Death

DAY ON TEST: 334

HISTO: 27440

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                           |                             |                          |
|--------------------------|---------------------------|-----------------------------|--------------------------|
| * Bone                   | * Epididymis              | * Esophagus                 | * Intestine Large, Cecum |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Islets, Pancreatic     | * Parathyroid Gland       | * Preputial Gland           | * Prostate               |
| * Salivary Glands        | * Seminal Vesicle         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular     | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |

MISSING

- \* Mammary Gland

AUTO PRECLUDES DIAG.

- \* Intestine Small, Jejunum

OBSERVATIONS

- |                           |                                     |                      |                    |
|---------------------------|-------------------------------------|----------------------|--------------------|
| * Adrenal Cortex          |                                     | Leukemia Mononuclear |                    |
| * Adrenal Medulla         |                                     | Leukemia Mononuclear |                    |
| * Bone Marrow             |                                     | Leukemia Mononuclear |                    |
| * Brain                   |                                     | Leukemia Mononuclear |                    |
|                           | [ Leukemia Mononuclear TGLS = 3-1 ] |                      |                    |
| * Heart                   |                                     | Leukemia Mononuclear |                    |
|                           | [ Leukemia Mononuclear TGLS = 3-1 ] |                      |                    |
| * Kidney                  |                                     | Leukemia Mononuclear |                    |
|                           | [ Leukemia Mononuclear TGLS = 3-1 ] | Nephropathy          | Mild               |
| * Larynx                  | Epiglottis                          | Metaplasia           | Squamous, Moderate |
| * Liver                   |                                     | Leukemia Mononuclear |                    |
|                           |                                     | Necrosis             | Mild               |
| * Lung                    |                                     | Leukemia Mononuclear |                    |
| * Lymph Node, Bronchial   |                                     | Leukemia Mononuclear |                    |
| * Lymph Node, Mandibular  |                                     | Leukemia Mononuclear |                    |
| * Lymph Node, Mediastinal |                                     | Leukemia Mononuclear |                    |
|                           | [ Leukemia Mononuclear TGLS = 1-2 ] |                      |                    |
| * Lymph Node, Mesenteric  |                                     | Leukemia Mononuclear |                    |
| Mesentery                 |                                     | Leukemia Mononuclear |                    |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 647

**TRT#:** 7

**SEX:** Male

**DAY ON TEST:** 334

**DOSE:** 100 MG/M3

**DISP:** Natural Death

**HISTO:** 27440

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: "Mass" was a large blood clot (ante mortem).

[ Leukemia Mononuclear TGLS = 4-12 ]

* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration Leukemia Mononuclear	Hyaline, Moderate Hyaline, Moderate
* Pancreas		Atrophy	Minimal
* Pituitary Gland		Leukemia Mononuclear	
* Spleen		Leukemia Mononuclear	
Note: "Focus, 5x3mm, pale" described at necropsy was due to post mortem autolysis.			
[ Leukemia Mononuclear TGLS = 2-4 ]			
* Testes	Interstit Cell	Hyperplasia	Minimal
* Thymus		Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 648

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 602

HISTO: 27441

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Brain                    | * Epididymis              | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    |
| * Parathyroid Gland      | * Preputial Gland          | * Prostate                | * Salivary Glands           |
| * Skin                   | * Trachea                  |                           |                             |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |  |            |                      |                   |
|--|------------|----------------------|-------------------|
| * Adrenal Cortex   |            | Leukemia Mononuclear |                   |
| * Adrenal Medulla  |            | Leukemia Mononuclear |                   |
| * Bone Marrow  |            | Leukemia Mononuclear |                   |
| [ Leukemia Mononuclear TGLS = 1-2 ]                                |            |                      |                   |
| * Heart  |            | Cardiomyopathy       | Moderate          |
| [ Leukemia Mononuclear TGLS = 1-2 ]                                |            | Leukemia Mononuclear |                   |
| * Kidney   |            | Leukemia Mononuclear |                   |
|  |            | Nephropathy          | Mild              |
| * Liver  |            | Degeneration         | Cystic, Minimal   |
|  |            | Degeneration         | Fatty, Moderate   |
|  | Bile Duct  | Hyperplasia          | Mild              |
| [ Leukemia Mononuclear TGLS = 5-4 ]                                |            | Leukemia Mononuclear |                   |
| * Lung   | Alveolus   | Inflammation         | Chronic, Moderate |
|  |            | Leukemia Mononuclear |                   |
| Note: Exposure-related lesions were somewhat obscured by leukemia. |            |                      |                   |
| [ Leukemia Mononuclear TGLS = 2-3+3A+11 ]                          |            |                      |                   |
| Lymph Node   | Pancreatic | Leukemia Mononuclear |                   |
| [ Leukemia Mononuclear TGLS = 4-13 ]                               |            |                      |                   |
| * Lymph Node, Bronchial  |            | Leukemia Mononuclear |                   |
| * Lymph Node, Mandibular   |            | Leukemia Mononuclear |                   |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 648

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 602

HISTO: 27441

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Mild
* Pancreas		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-13 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia Leukemia Mononuclear	Mild
[ Leukemia Mononuclear TGLS = 4-13 ]			
* Seminal Vesicle		Leukemia Mononuclear	
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-12 ]			
* Stomach, Forestomach		Leukemia Mononuclear	
* Stomach, Glandular		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 1-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Thyroid Gland	C Cell C Cell	Adenoma Hyperplasia	Mild
* Urinary Bladder		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 649

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 15

HISTO: 27442

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Brain
* Epididymis	* Esophagus	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Liver
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Nose
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Preputial Gland
* Prostate	* Salivary Glands	* Seminal Vesicle	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Testes	* Thyroid Gland
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mediastinal	* Mammary Gland
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OBSERVATIONS

* Bone Marrow		Atrophy	Moderate
* Int Lg Cecum			
Note: Dilated cecum described at necropsy was normal microscopically.			
* Larynx	Epiglottis	Metaplasia	Squamous, Marked
* Liver			
Note: "Focus, 3mm diameter, dark" was blood in normal hepatic vasculature.			
* Spleen		Atrophy	Minimal
[ Atrophy TGLS = 3-4 ]			
* Thymus		Atrophy	Moderate

PRIMARY CAUSE OF DEATH

- UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 650

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 567

HISTO: 27443

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Bone                     | * Epididymis              | * Esophagus                 | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Parathyroid Gland       | * Preputial Gland           | * Prostate               |
| * Salivary Glands          | * Seminal Vesicle         | * Skin                      | * Thyroid Gland          |
| * Trachea                  | * Urinary Bladder         |                             |                          |

MISSING

- \* Mammary Gland

OBSERVATIONS

- |  |               |                      |                   |
|--|---------------|----------------------|-------------------|
| * Adrenal Cortex                         |               | Hyperplasia          | Mild              |
|  |               | Leukemia Mononuclear |                   |
| [ Leukemia Mononuclear TGLS = 9-6 ]      |               |                      |                   |
| * Adrenal Medulla                        |               | Leukemia Mononuclear |                   |
| * Bone Marrow                            |               | Leukemia Mononuclear |                   |
| * Brain                                  |               | Leukemia Mononuclear |                   |
| * Heart                                  |               | Cardiomyopathy       | Mild              |
|  |               | Leukemia Mononuclear |                   |
| * Islets, Pancreatic                     |               | Adenoma              |                   |
| * Kidney                                 |               | Infarct              | Moderate          |
|  |               | Leukemia Mononuclear |                   |
|  |               | Nephropathy          | Mild              |
| [ Infarct TGLS = 8-5 ]                   |               |                      |                   |
| * Larynx                                 | Epiglottis    | Metaplasia           | Squamous, Mild    |
| * Liver                                  |               | Degeneration         | Cystic, Minimal   |
|  | Bile Duct     | Hyperplasia          | Mild              |
|  |               | Leukemia Mononuclear |                   |
|  | Centrilobular | Necrosis             | Minimal           |
| [ Leukemia Mononuclear TGLS = 5,7-4+11 ] |               |                      |                   |
| * Lung                                   | Alveolus      | Inflammation         | Chronic, Moderate |
|  |               | Leukemia Mononuclear |                   |

Note: Exposure-related lesions were somewhat obscured by leukemia.

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 650

TRT#: 7

DOSE: 100 MG/M3

SEX: Male

DISP: Moribund Sacrifice

DAY ON TEST: 567

HISTO: 27443

ORGAN AND ACCOUNTABLE SITE STATUS

[ Inflammation TGLS = 2-3+3A ]			
[ Leukemia Mononuclear TGLS = 1-3A ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-13 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-6 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-6 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-6 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Leukemia Mononuclear	
		Thrombosis	Moderate
[ Leukemia Mononuclear TGLS = 3,10-7 ]			
* Pancreas		Atrophy	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-13 ]			
* Pituitary Gland		Leukemia Mononuclear	
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-12 ]			
* Stomach, Forestomach		Leukemia Mononuclear	
* Stomach, Glandular		Leukemia Mononuclear	
* Testes	Bilateral, Interstit Cell	Adenoma	
[ Adenoma TGLS = 3,10-7 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3,10-7 ]			

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 101

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 727

HISTO: 27344

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
	[ Nephropathy TGLS = 6-5 ]		
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
		Mixed Cell Focus	
	[ Basophilic Focus TGLS = 5-4 ]		
	[ Leukemia Mononuclear TGLS = 5-4 ]		
	[ Mixed Cell Focus TGLS = 5-4 ]		
* Lym Node Mand			
	Note: "Dark" mandibular lymph node was within normal limits microscopically.		
* Mammary Gland		Fibroadenoma	Multiple
	[ Fibroadenoma TGLS = 1,3-11+12 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 4-8 ]		
* Skin			
	Note: The alopecic skin was otherwise normal microscopically.		
* Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 101	<b>TRT#:</b> 2	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 727
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27344

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Leukemia Mononuclear TGLS = 4-8 ]

* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

---

PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear
CONTRIBUTORY CAUSE OF DEATH	- Mammary Gland Fibroadenoma

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 102

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 707

HISTO: 27345

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    |
| * Mammary Gland          | * Parathyroid Gland        | * Salivary Glands         | * Skin                      |
| * Trachea                |                            |                           |                             |

OBSERVATIONS

- |  |               |                            |                 |
|--|---------------|----------------------------|-----------------|
| * Adrenal Cortex                           |               | Leukemia Mononuclear       |                 |
| [ Leukemia Mononuclear TGLS = 10-6 ]       |               |                            |                 |
| * Adrenal Medulla                          |               | Leukemia Mononuclear       |                 |
| [ Leukemia Mononuclear TGLS = 10-6 ]       |               |                            |                 |
| * Bone Marrow                              |               | Leukemia Mononuclear       |                 |
| * Heart                                    |               | Leukemia Mononuclear       |                 |
| * Kidney                                   |               | Leukemia Mononuclear       |                 |
| [ Nephropathy TGLS = 8-5 ]                 |               | Nephropathy                | Moderate        |
| * Liver                                    |               | Degeneration               | Fatty, Moderate |
|  |               | Hepatodiaphragmatic Nodule |                 |
|  | Bile Duct     | Hyperplasia                | Moderate        |
|  | Centrilobular | Leukemia Mononuclear       |                 |
| [ Hepatodiaphragmatic Nodule TGLS = 6-13 ] |               | Necrosis                   | Minimal         |
| [ Leukemia Mononuclear TGLS = 7-4 ]        |               |                            |                 |
| * Lung                                     |               | Leukemia Mononuclear       |                 |
| [ Leukemia Mononuclear TGLS = 6-13 ]       |               |                            |                 |
| Lymph Node                                 | Renal         | Leukemia Mononuclear       |                 |
| [ Leukemia Mononuclear TGLS = 9-16 ]       |               |                            |                 |
| * Lymph Node, Bronchial                    |               | Leukemia Mononuclear       |                 |
| [ Leukemia Mononuclear TGLS = 10-6 ]       |               |                            |                 |
| * Lymph Node, Mandibular                   |               | Leukemia Mononuclear       |                 |
| [ Leukemia Mononuclear TGLS = 10-6 ]       |               |                            |                 |

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 102

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 707

HISTO: 27345

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mediastinal [ Leukemia Mononuclear TGLS = 5-14 ]		Leukemia Mononuclear	
* Lymph Node, Mesenteric [ Leukemia Mononuclear TGLS = 10-6 ]		Leukemia Mononuclear	
Mesentery [ Leukemia Mononuclear TGLS = 2-15 ]		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration Thrombosis	Hyaline, Minimal Minimal
* Ovary [ Leukemia Mononuclear TGLS = 2-15 ]		Leukemia Mononuclear	
* Pancreas [ Leukemia Mononuclear TGLS = 2-15 ]		Leukemia Mononuclear	
* Pituitary Gland [ Adenoma TGLS = 1-8 ] [ Leukemia Mononuclear TGLS = 2-15 ]	Pars Distalis	Adenoma Leukemia Mononuclear	
* Spleen [ Leukemia Mononuclear TGLS = 3,4-11+12 ]		Leukemia Mononuclear	
* Stomach, Forestomach [ Leukemia Mononuclear TGLS = 10-6 ] [ Necrosis TGLS = 5-14 ]		Leukemia Mononuclear Necrosis	Marked
* Stomach, Glandular [ Leukemia Mononuclear TGLS = 5-14 ]		Leukemia Mononuclear	
* Thymus [ Leukemia Mononuclear TGLS = 3,4-11+12 ]		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder		Leukemia Mononuclear	
* Uterus		Leukemia Mononuclear Polyp Stromal	

PRIMARY CAUSE OF DEATH - Thymus Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

---

**ANIMAL ID:** 102

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 707  
**HISTO:** 27345

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

CONTRIBUTORY CAUSE OF DEATH	- Lymph Node;Mediastinal Mononuclear	Leukemia Mononuclear;Pituitary Gland Pars Distalis	Adenoma;Stomach;Forestomach	Necrosis;Stomach;Glandular	Leukemia
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 103

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27346

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Mammary Gland	* Ovary
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Bone			
Note: "Mass, 2mm diameter, palate" was normal variation in surface of palate.			
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-14 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Basophilic Focus	
[ Basophilic Focus TGLS = 2-4 ]		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-4 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-4 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-11 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 103

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 737

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 27346

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

* Thymus [ Leukemia Mononuclear TGLS = 3-11 ]		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Mild

---

PRIMARY CAUSE OF DEATH

-

CONTRIBUTORY CAUSE OF DEATH

- Bone Marrow Leukemia Mononuclear

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 104

TRT#: 2

SEX: Female

DAY ON TEST: 693

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27347

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Glandular	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
		Vacuolization Cytoplasmic	Mild
* Adrenal Medulla		Leukemia Mononuclear	
	Bilateral	Pheochromocytoma Benign	
* Bone		Hyperostosis	Moderate
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
* Kidney		Infarct	Mild
		Leukemia Mononuclear	
		Nephropathy	Moderate
* Liver		Basophilic Focus	
		Degeneration	Fatty, Moderate
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-4 ]		
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-2 ]		
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Thrombosis	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 104

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 693

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 27347

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
[ Adenoma TGLS = 1-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-11 ]			
* Stomach, Forestomach		Necrosis	Moderate
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-11 ]			
* Thyroid Gland	Bilateral, C Cell	Hyperplasia	Marked
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 2-8 ]			

**PRIMARY CAUSE OF DEATH** - Thymus Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 105

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 730

HISTO: 27348

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
	[ Nephropathy TGLS = 4-5 ]		
* Liver		Basophilic Focus	
		Degeneration	Fatty, Moderate
		Leukemia Mononuclear	
	[ Basophilic Focus TGLS = 3-4 ]		
	[ Leukemia Mononuclear TGLS = 3-4 ]		
* Lung		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Inflammation	Suppurative, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 2-8 ]		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-8 ]		
* Stomach, Forestomach		Mineralization	Minimal
		Necrosis	Minimal
* Stomach, Glandular		Mineralization	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

---

**ANIMAL ID:** 105

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 27348

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Hyperplasia

Mild

---

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 106

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 716

HISTO: 27349

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Ovary
* Parathyroid Gland	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder	* Uterus	

MISSING

\* Clitoral Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Leukemia Mononuclear	
	Centrilobular	Necrosis	Minimal
	[ Leukemia Mononuclear TGLS = 4-4 ]		
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 2-7+11+12+13 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-7+11+12+13 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 106	<b>TRT#:</b> 2	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 716
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27349

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 1-8 ]			
[ Leukemia Mononuclear TGLS = 2-7+11+12+13 ]			
* Salivary Glands		Atrophy	Mild
		Leukemia Mononuclear	
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-14 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-14 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

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<b>PRIMARY CAUSE OF DEATH</b>	- Thymus	Leukemia Mononuclear	
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 107

TRT#: 2

SEX: Female

DAY ON TEST: 516

DOSE: CONTROL

DISP: Natural Death

HISTO: 27350

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Bone	* Bone Marrow	* Brain	* Esophagus
* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Thymus	* Trachea
* Uterus			

**MISSING**

\* Clitoral Gland

**AUTO PRECLUDES DIAG.**

* Adrenal Cortex	* Adrenal Medulla	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Nose	* Pancreas
* Pituitary Gland	* Spleen	* Stomach, Glandular	* Thyroid Gland
* Urinary Bladder			

**OBSERVATIONS**

* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 2-11 ]			
* Ovary		Cyst	Mild
[ Cyst TGLS = 1-7 ]			

PRIMARY CAUSE OF DEATH

- UNCERTAIN

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 108

TRT#: 2

SEX: Female

DAY ON TEST: 679

DOSE: CONTROL

DISP: Natural Death

HISTO: 27351

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                           |                             |                            |
|--------------------------|---------------------------|-----------------------------|----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla         | * Bone                      | * Bone Marrow              |
| * Brain                  | * Clitoral Gland          | * Esophagus                 | * Intestine Large, Cecum   |
| * Intestine Large, Colon | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Jejunum |
| * Islets, Pancreatic     | * Larynx                  | * Lung                      | * Lymph Node, Bronchial    |
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Mammary Gland            |
| * Nose                   | * Ovary                   | * Pancreas                  | * Parathyroid Gland        |
| * Salivary Glands        | * Skin                    | * Spleen                    | * Stomach, Forestomach     |
| * Stomach, Glandular     | * Thymus                  | * Thyroid Gland             | * Trachea                  |
| * Urinary Bladder        | * Uterus                  |                             |                            |

AUTO PRECLUDES DIAG.

- \* Intestine Small, Ileum

OBSERVATIONS

- |                   |               |                  |         |
|-------------------|---------------|------------------|---------|
| * Heart           |               | Cardiomyopathy   | Minimal |
| * Kidney          |               | Nephropathy      | Minimal |
| * Liver           |               | Basophilic Focus |         |
| * Pituitary Gland | Pars Distalis | Adenoma          |         |

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 109

TRT#: 2

SEX: Female

DAY ON TEST: 737

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27352

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
* Lung	Alveolus	Inflammation	Chronic, Mild
	[ Inflammation TGLS = 5-3A ]		
* Mammary Gland		Fibroadenoma	Multiple
	[ Fibroadenoma TGLS = 1,6-11+12+13+14 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 2-8 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 110

TRT#: 2

SEX: Female

DAY ON TEST: 674

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27353

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    |
| * Mammary Gland          | * Nose                     | * Parathyroid Gland       | * Salivary Glands           |
| * Skin                   | * Stomach, Forestomach     | * Stomach, Glandular      | * Thymus                    |
| * Trachea                | * Urinary Bladder          | * Uterus                  |                             |

OBSERVATIONS

- |                                      |               |                      |                 |
|--------------------------------------|---------------|----------------------|-----------------|
| * Adrenal Cortex                     |               | Leukemia Mononuclear |                 |
| * Adrenal Medulla                    |               | Leukemia Mononuclear |                 |
| * Bone Marrow                        |               | Leukemia Mononuclear |                 |
| * Heart                              |               | Leukemia Mononuclear |                 |
| * Kidney                             |               | Leukemia Mononuclear |                 |
| * Liver                              |               | Nephropathy          | Mild            |
|                                      |               | Basophilic Focus     |                 |
|                                      |               | Degeneration         | Fatty, Moderate |
|                                      | Bile Duct     | Hyperplasia          | Moderate        |
|                                      |               | Leukemia Mononuclear |                 |
| [ Leukemia Mononuclear TGLS = 4-4 ]  |               |                      |                 |
| * Lung                               |               | Leukemia Mononuclear |                 |
| * Lymph Node, Bronchial              |               | Leukemia Mononuclear |                 |
| * Lymph Node, Mandibular             |               | Leukemia Mononuclear |                 |
| * Lymph Node, Mediastinal            |               | Leukemia Mononuclear |                 |
| * Lymph Node, Mesenteric             |               | Leukemia Mononuclear |                 |
| * Ovary                              |               | Leukemia Mononuclear |                 |
| * Pancreas                           |               | Atrophy              | Minimal         |
| * Pituitary Gland                    | Pars Distalis | Adenoma              |                 |
|                                      |               | Leukemia Mononuclear |                 |
| [ Adenoma TGLS = 2-8 ]               |               |                      |                 |
| * Spleen                             |               | Leukemia Mononuclear |                 |
| [ Leukemia Mononuclear TGLS = 3-11 ] |               |                      |                 |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 110	<b>TRT#:</b> 2	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 674
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27353

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 111

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27354

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Moderate
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Mixed Cell Focus	
[ Mixed Cell Focus TGLS = 5,6-11+12 ]			
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,2,3-13+14+15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 4-8 ]			
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	Follicular Cel	Adenoma	
	C Cell	Hyperplasia	Mild
* Uterus		Polyp Stromal	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 111

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 736  
**HISTO:** 27354

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 112

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27355

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
		Vacuolization Cytoplasmic	Mild
Harderian Gland			
Note: "Dark" harderian was due to blood from ante mortem bleeding technique.			
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
		Hepatodiaphragmatic Nodule	
[ Hepatodiaphragmatic Nodule TGLS = 5-12 ]			
* Lung	Alveolar Epith	Hyperplasia	Mild
[ Hyperplasia TGLS = 4-11 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-13+7 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Hydrometra	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 112

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 27355

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Hydrometra TGLS = 6-8 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 113

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27356

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Cortex
- \* Esophagus
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Skin
- \* Urinary Bladder

- \* Adrenal Medulla
- \* Intestine Large, Cecum
- \* Intestine Small, Jejunum
- \* Ovary
- \* Stomach, Forestomach
- \* Uterus

- \* Bone
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Parathyroid Gland
- \* Thymus

- \* Brain
- \* Intestine Small, Duodenum
- \* Larynx
- \* Salivary Glands
- \* Trachea

MISSING

- \* Clitoral Gland

OBSERVATIONS

- \* Bone Marrow
- \* Heart
- \* Intestine Large, Colon

Note: "Sarcoma" was probably mast cell tumor, with lots of eosinophils.  
 [ Sarcoma TGLS = 7-14 ]

- \* Kidney

- \* Liver

Bile Duct

[ Leukemia Mononuclear TGLS = 5,8-4+11 ]

- \* Lung

Alveolus

[ Inflammation TGLS = 4-3A ]

[ Leukemia Mononuclear TGLS = 5,8-4+11 ]

- \* Lymph Node, Bronchial
- \* Lymph Node, Mediastinal
- \* Lymph Node, Mesenteric
- \* Mammary Gland

[ Fibroadenoma TGLS = 2-13 ]

- \* Nose

Olfactory Epi

- Leukemia Mononuclear
- Cardiomyopathy
- Sarcoma

Minimal

- Leukemia Mononuclear
- Nephropathy
- Basophilic Focus
- Hyperplasia
- Leukemia Mononuclear

Moderate

Mild

- Inflammation
- Leukemia Mononuclear

Chronic, Minimal

- Leukemia Mononuclear
- Leukemia Mononuclear
- Leukemia Mononuclear
- Fibroadenoma

Degeneration

Hyaline, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 113	<b>TRT#:</b> 2 <b>DOSE:</b> CONTROL	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 737 <b>HISTO:</b> 27356
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pancreas [ Basophilic Focus TGLS = 2-13 ]		Atrophy Basophilic Focus	Minimal
* Pituitary Gland [ Adenoma TGLS = 3-8 ]	Pars Distalis	Adenoma	
* Skin Note: There was no microscopic finding to explain the alopecia described at necropsy.			
* Spleen [ Leukemia Mononuclear TGLS = 6-4 ]		Leukemia Mononuclear	
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland Tongue [ Squamous Cell Papilloma TGLS = 9-15 ]	C Cell	Hyperplasia Squamous Cell Papilloma	Mild

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 114

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27357

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lung	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Spleen	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Clitoral Gland		Adenoma	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Degeneration	Fatty, Minimal
		Mixed Cell Focus	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
* Skin		Inflammation	Chronic Active, Moderate
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 115

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27358

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
		Hepatodiaphragmatic Nodule	
[ Hepatodiaphragmatic Nodule TGLS = 3,4-12+11 ]			
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Skin		Inflammation	Chronic Active, Moderate
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 116

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 534

HISTO: 27359

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Lung
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	
		Mixed Cell Focus	
[ Mixed Cell Focus TGLS = 3-11 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-12 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 4-13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 117

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27360

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Bronchial	* Lymph Node, Mesenteric	* Ovary
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Minimal
* Adrenal Medulla		Hyperplasia	Mild
		Pheochromocytoma Complex	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
	Bile Duct	Hyperplasia	Minimal
		Fibroadenoma	
* Mammary Gland			
[ Fibroadenoma TGLS = 1-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 118

TRT#: 2

SEX: Female

DAY ON TEST: 735

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27361

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
	Bile Duct	Hepatocellular Adenoma	
		Hyperplasia	Minimal
	[ Hepatocellular Adenoma TGLS = 1-11 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Basophilic Focus	
		[ Basophilic Focus TGLS = 1-11 ]	
* Pituitary Gland	Pars Distalis	Adenoma	
* Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 119

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27362

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
* Lung	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 1-8 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 120

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27363

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Mammary Gland	* Ovary
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
* Clitoral GI			
Note: "Enlarged" clitoral gland had dilated duct filled with normal secretion.			
* Heart		Cardiomyopathy	Minimal
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 120

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 735  
**HISTO:** 27363

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 121

TRT#: 2

SEX: Female

DAY ON TEST: 559

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27364

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Adrenal Cortex           | * Adrenal Medulla         | * Bone                      | * Bone Marrow            |
| * Brain                    | * Clitoral Gland          | * Esophagus                 | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    | * Liver                  |
| * Lymph Node, Bronchial    | * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Mammary Gland          |
| * Ovary                    | * Pancreas                | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Spleen                  | * Stomach, Forestomach      | * Stomach, Glandular     |
| * Thymus                   | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |
| * Uterus                   |                           |                             |                          |

OBSERVATIONS

- |                          |               |                       |                       |
|--------------------------|---------------|-----------------------|-----------------------|
| * Heart                  |               | Cardiomyopathy        | Minimal               |
| * Kidney                 |               | Nephropathy           | Mild                  |
| * Lung                   | Alveolus      | Inflammation          | Chronic, Minimal      |
| * Lymph Node, Mandibular |               | Infiltration Cellular | Plasma Cell, Moderate |
| * Nose                   | Olfactory Epi | Degeneration          | Hyaline, Minimal      |
| * Pituitary Gland        | Pars Distalis | Adenoma               |                       |
| [ Adenoma TGLS = 1-11 ]  |               |                       |                       |

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 122

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 737

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 27365

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

**OBSERVATIONS**

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Clitoral Gland		Carcinoma	
[ Carcinoma TGLS = 2-12 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Ovary		Granulosa Cell Tumor Malignant	
[ Granulosa Cell Tumor Malignant TGLS = 3-11 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
[ Hyperplasia TGLS = 1-8 ]			
* Stomach, Glandular		Mineralization	Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 123

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27366

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Nose
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Angiectasis	Mild
		Basophilic Focus	
	Bile Duct	Hyperplasia	Mild
		Necrosis	Minimal
[ Angiectasis TGLS = 2-4 ]			
[ Basophilic Focus TGLS = 3-11 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 124

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 598

HISTO: 27367

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Lung
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Mediastinal	* Thymus
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OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Vacuolization Cytoplasmic	Focal, Mild
[ Vacuolization Cytoplasmic TGLS = 5-4 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 3-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 125

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27368

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 3-5 ]			
* Liver		Angiectasis	Mild
		Basophilic Focus	
		Clear Cell Focus	
[ Basophilic Focus TGLS = 3-5 ]			
[ Clear Cell Focus TGLS = 3-5 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Inflammation	Suppurative, Marked
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Hydrometra	Moderate
[ Hydrometra TGLS = 2-8 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 126

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 716

HISTO: 27369

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Bone                     | * Brain                   | * Esophagus                 | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Larynx                  | * Nose                      | * Ovary                  |
| * Parathyroid Gland        | * Salivary Glands         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Trachea                 | * Uterus                    |                          |

OBSERVATIONS

- |                           |   |                      |                          |
|---------------------------|---|----------------------|--------------------------|
| * Adrenal Cortex          |   | Leukemia Mononuclear |                          |
| * Adrenal Medulla         |   | Leukemia Mononuclear |                          |
| * Bone Marrow             |   | Leukemia Mononuclear |                          |
| * Clitoral Gland          |   | Inflammation         | Chronic Active, Moderate |
| * Heart                   |   | Cardiomyopathy       | Mild                     |
| * Islets, Pancreatic      |   | Adenoma              |                          |
| * Kidney                  |   | Nephropathy          | Mild                     |
| * Liver                   |   | Basophilic Focus     |                          |
|                           | Bile Duct                                   | Degeneration         | Fatty, Mild              |
|                           |   | Hyperplasia          | Mild                     |
|                           |   | Leukemia Mononuclear |                          |
|                           | [ Leukemia Mononuclear TGLS = 5,6,10-4+11 ] |                      |                          |
| * Lung                    |   | Leukemia Mononuclear |                          |
|                           | [ Leukemia Mononuclear TGLS = 5,6,10-4+11 ] |                      |                          |
| Lymph Node                | Iliac                                       | Leukemia Mononuclear |                          |
|                           | Renal                                       | Leukemia Mononuclear |                          |
|                           | [ Leukemia Mononuclear TGLS = 7-16 ]        |                      |                          |
|                           | [ Leukemia Mononuclear TGLS = 8-17 ]        |                      |                          |
| * Lymph Node, Bronchial   |   | Leukemia Mononuclear |                          |
| * Lymph Node, Mandibular  |   | Leukemia Mononuclear |                          |
| * Lymph Node, Mediastinal |   | Leukemia Mononuclear |                          |
| * Lymph Node, Mesenteric  |   | Leukemia Mononuclear |                          |
| * Mammary Gland           |   | Fibroadenoma         | Multiple                 |
|                           | [ Fibroadenoma TGLS = 3,9-13+14+15 ]        |                      |                          |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 126

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 716

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 27369

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
[ Hyperplasia TGLS = 1,2-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-12 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-12 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH - Thymus Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 127

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27370

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Minimal
* Bone		Hyperostosis	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Degeneration	Fatty, Minimal
		Fibroadenoma	
* Mammary Gland			
[ Fibroadenoma TGLS = 2-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Ovary		Cyst	Mild
[ Cyst TGLS = 3-7 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Carcinoma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 128

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 715

**DOSE:** CONTROL

**DISP:** Moribund Sacrifice

**HISTO:** 27371

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

**MISSING**

\* Lymph Node, Bronchial

**OBSERVATIONS**

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Mixed Cell Focus	
	[ Basophilic Focus TGLS = 4-12 ]		
	[ Mixed Cell Focus TGLS = 4-12 ]		
* Lung		Squamous Cell Carcinoma	
	[ Squamous Cell Carcinoma TGLS = 1-11 ]		
* Lym Node Media			
	Note: "Enlarged" mediastinal lymph node was within normal limits microscopically.		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 3-8 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild

**PRIMARY CAUSE OF DEATH**

- Lung Squamous Cell Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 129

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27372

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mesenteric
* Ovary	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal
--------------------------	---------------------------

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
		Mixed Cell Focus	
[ Basophilic Focus TGLS = 3-4 ]			
[ Mixed Cell Focus TGLS = 3-4 ]			
* Lung	Bronchiole	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Minimal
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Inflammation	Suppurative, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 130

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27373

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone Marrow	* Brain	* Esophagus
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
* Bone		Hyperostosis	Moderate
* Clitoral Gland		Inflammation	Chronic Active, Minimal
[ Inflammation TGLS = 1-7 ]			
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
* Lung			
Note: "Focus, 3mm diameter, pale" described at necropsy was not apparent microscopically.			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 131

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 680

HISTO: 27374

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Parathyroid Gland	* Salivary Glands	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

* Clitoral Gland	* Lymph Node, Bronchial
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
* Liver		Basophilic Focus	
		Mixed Cell Focus	
[ Mixed Cell Focus TGLS = 6-4 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 6-4 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Ovary		Cyst	Moderate
		Granulosa-Theca Tumor Malignant	
[ Cyst TGLS = 3-7 ]			
[ Granulosa-Theca Tumor Malignant TGLS = 4-7 ]			
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Skin	Subcut Tiss	Schwannoma Malignant	
[ Schwannoma Malignant TGLS = 2-12+13+14 ]			
* Spleen		Hematopoietic Cell Proliferation	Marked
[ Hematopoietic Cell Proliferation TGLS = 5-11 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 131	<b>TRT#:</b> 2 <b>DOSE:</b> CONTROL	<b>SEX:</b> Female <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 680 <b>HISTO:</b> 27374
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Thyroid Gland	C Cell	Hyperplasia	Marked
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PRIMARY CAUSE OF DEATH	- Skin Subcut Tiss Schwannoma Malignant
CONTRIBUTORY CAUSE OF DEATH	- Pituitary Gland Pars Distalis Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 132

TRT#: 2

SEX: Female

DAY ON TEST: 688

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27375

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                      |                      |                          |
|---------------------------|----------------------|----------------------|--------------------------|
| * Bone                    | * Bone Marrow        | * Esophagus          | * Intestine Large, Cecum |
| * Intestine Large, Rectum | * Islets, Pancreatic | * Larynx             | * Parathyroid Gland      |
| * Salivary Glands         | * Skin               | * Stomach, Glandular | * Trachea                |
| * Urinary Bladder         | * Uterus             |                      |                          |

MISSING

- \* Clitoral Gland

OBSERVATIONS

- |                                     |               |                         |         |
|-------------------------------------|---------------|-------------------------|---------|
| * Adrenal Cortex                    |               | Leukemia Mononuclear    |         |
| [ Leukemia Mononuclear TGLS = 7-6 ] |               |                         |         |
| * Adrenal Medulla                   |               | Leukemia Mononuclear    |         |
|                                     | Bilateral     | Pheochromocytoma Benign |         |
| [ Leukemia Mononuclear TGLS = 7-6 ] |               |                         |         |
| * Brain                             |               | Leukemia Mononuclear    |         |
| * Heart                             |               | Leukemia Mononuclear    |         |
| * Intestine Large, Colon            |               | Leukemia Mononuclear    |         |
| [ Leukemia Mononuclear TGLS = 7-6 ] |               |                         |         |
| * Intestine Small, Duodenum         |               | Leukemia Mononuclear    |         |
| [ Leukemia Mononuclear TGLS = 7-6 ] |               |                         |         |
| * Intestine Small, Ileum            |               | Leukemia Mononuclear    |         |
| [ Leukemia Mononuclear TGLS = 7-6 ] |               |                         |         |
| * Intestine Small, Jejunum          |               | Leukemia Mononuclear    |         |
| [ Leukemia Mononuclear TGLS = 7-6 ] |               |                         |         |
| * Kidney                            | Renal Tubule  | Hyperplasia             | Mild    |
|                                     |               | Leukemia Mononuclear    |         |
|                                     |               | Nephropathy             | Minimal |
| [ Hyperplasia TGLS = 9-13 ]         |               |                         |         |
| * Liver                             | Bile Duct     | Basophilic Focus        |         |
|                                     |               | Hyperplasia             | Mild    |
|                                     | Centrilobular | Leukemia Mononuclear    |         |
|                                     |               | Necrosis                | Mild    |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 132                      **TRT#:** 2                      **SEX:** Female                      **DAY ON TEST:** 688  
**DOSE:** CONTROL                      **DISP:** Moribund Sacrifice                      **HISTO:** 27375

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Basophilic Focus TGLS = 5-4 ]			
[ Leukemia Mononuclear TGLS = 5-4 ]			
* Lung	Alveolus	Inflammation Leukemia Mononuclear	Chronic, Minimal
[ Leukemia Mononuclear TGLS = 2-3+11 ]			
Lymph Node	Renal	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-14 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-2 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-15 ]			
* Nose	Olfactory Epi	Degeneration Thrombosis	Hyaline, Minimal Mild
* Ovary		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-15 ]			
* Pancreas		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-15 ]			
* Pituitary Gland		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-15 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3,4-12+16 ]			
* Stomach, Forestomach		Leukemia Mononuclear	
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3,4-12+16 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 132

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 688  
**HISTO:** 27375

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH - Thymus Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 133

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27376

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Moderate
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
Note: Kidneys were "pale" due to anemia secondary to gingival neoplasm.			
* Liver		Basophilic Focus	
		Eosinophilic Focus	
		Hematopoietic Cell Proliferation	Mild
[ Eosinophilic Focus TGLS = 4-12 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
Oral Mucosa	Gingival	Squamous Cell Carcinoma	
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Spleen		Hematopoietic Cell Proliferation	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 134

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 679

HISTO: 27377

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Bone Marrow              | * Clitoral Gland          | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    |
| * Mammary Gland          | * Nose                     | * Parathyroid Gland       | * Salivary Glands           |
| * Skin                   | * Stomach, Forestomach     | * Thymus                  | * Trachea                   |
| * Urinary Bladder        | * Uterus                   |                           |                             |

OBSERVATIONS

- |                                     |               |   |         |
|-------------------------------------|---------------|---|---------|
| * Adrenal Cortex                    |               | Leukemia Mononuclear<br>Necrosis                        | Mild    |
| * Adrenal Medulla                   |               | Leukemia Mononuclear                                    |         |
| * Brain                             |               | Leukemia Mononuclear                                    |         |
| * Heart                             |               | Cardiomyopathy  | Minimal |
| * Kidney                            |               | Leukemia Mononuclear<br>Nephropathy                     | Mild    |
| * Liver                             | Bile Duct     | Basophilic Focus<br>Hyperplasia<br>Leukemia Mononuclear | Mild    |
| [ Basophilic Focus TGLS = 5-4 ]     |               |   |         |
| * Lung                              |               | Leukemia Mononuclear                                    |         |
| [ Leukemia Mononuclear TGLS = 5-4 ] |               |   |         |
| * Lymph Node, Bronchial             |               | Leukemia Mononuclear                                    |         |
| * Lymph Node, Mandibular            |               | Leukemia Mononuclear                                    |         |
| * Lymph Node, Mediastinal           |               | Leukemia Mononuclear                                    |         |
| * Lymph Node, Mesenteric            |               | Leukemia Mononuclear                                    |         |
| * Ovary                             |               | Leukemia Mononuclear                                    |         |
| [ Leukemia Mononuclear TGLS = 5-4 ] |               |   |         |
| * Pancreas                          |               | Leukemia Mononuclear                                    |         |
| [ Leukemia Mononuclear TGLS = 5-4 ] |               |   |         |
| * Pituitary Gland                   | Pars Distalis | Adenoma   |         |
| [ Adenoma TGLS = 1-8 ]              |               |   |         |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 134	<b>TRT#:</b> 2 <b>DOSE:</b> CONTROL	<b>SEX:</b> Female <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 679 <b>HISTO:</b> 27377
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen [ Hemorrhage TGLS = 3,4-11 ] [ Leukemia Mononuclear TGLS = 2-11 ]		Hemorrhage Leukemia Mononuclear	Moderate
* Stomach, Glandular		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Mild

---

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 135

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Natural Death

DAY ON TEST: 638

HISTO: 27378

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

AUTO PRECLUDES DIAG.

* Intestine Small, Jejunum	* Nose
----------------------------	--------

OBSERVATIONS

* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	
		Vacuolization Cytoplasmic	Focal, Mild
Note: Liver was pale due to anemia secondary to large vascular uterine stromal polyp.			
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 1-8 ]		
* Spleen		Hematopoietic Cell Proliferation	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus		Polyp Stromal	
	[ Polyp Stromal TGLS = 2-11+12 ]		

PRIMARY CAUSE OF DEATH

- Uterus Polyp Stromal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 136

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27379

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Islets, Pancreatic	* Larynx	* Mammary Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Uterus		

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
* Intestine Small, Ileum		Leukemia Mononuclear	
* Intestine Small, Jejunum		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
		Necrosis	Minimal
		[ Basophilic Focus TGLS = 2-4 ]	
		[ Leukemia Mononuclear TGLS = 2-4 ]	
* Lung		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 3-3A ]	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Ovary		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 3-3A ]	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 136

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 27379

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pancreas		Atrophy	Mild
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
	[ Adenoma TGLS = 1-8 ]		
	[ Leukemia Mononuclear TGLS = 1-8 ]		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-11 ]		
* Thymus		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-11 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 137

TRT#: 2

SEX: Female

DAY ON TEST: 737

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27380

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | * Bone                      | * Bone Marrow            | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Larynx                    | * Lymph Node, Bronchial  | * Lymph Node, Mandibular   |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Ovary                  | * Pancreas                 |
| * Parathyroid Gland       | * Salivary Glands           | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Trachea                | * Urinary Bladder          |
| * Uterus                  |                             |                          |                            |

OBSERVATIONS

- |   |               |                         |                  |
|---|---------------|-------------------------|------------------|
| * Adrenal Cortex                        |               | Hyperplasia             | Mild             |
| * Heart                                 |               | Cardiomyopathy          | Minimal          |
| * Kidney                                |               | Nephropathy             | Moderate         |
| [ Nephropathy TGLS = 2-5 ]              |               |                         |                  |
| * Liver                                 |               | Basophilic Focus        |                  |
|   |               | Degeneration            | Fatty, Minimal   |
| * Lung                                  | Alveolus      | Inflammation            | Chronic, Minimal |
| * Mammary Gland                         |               | Fibroadenoma            |                  |
| [ Fibroadenoma TGLS = 4-12 ]            |               |                         |                  |
| * Nose                                  | Olfactory Epi | Degeneration            | Hyaline, Mild    |
| * Pituitary Gland                       | Pars Distalis | Adenoma                 |                  |
| [ Adenoma TGLS = 1-8 ]                  |               |                         |                  |
| * Skin                                  |               | Squamous Cell Papilloma |                  |
| [ Squamous Cell Papilloma TGLS = 3-11 ] |               |                         |                  |
| * Thyroid Gland                         | C Cell        | Hyperplasia             | Mild             |

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 138

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27381

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Moderate
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Eosinophilic Focus	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Carcinoma	
	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 139

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 706

HISTO: 27382

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Mammary Gland
* Ovary	* Parathyroid Gland	* Salivary Glands	* Stomach, Glandular
* Trachea			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
		Vacuolization Cytoplasmic	Moderate
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
	[ Nephropathy TGLS = 7-5 ]		
* Liver		Basophilic Focus	
		Degeneration	Fatty, Moderate
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
	[ Basophilic Focus TGLS = 6-4 ]		
	[ Leukemia Mononuclear TGLS = 6-4 ]		
* Lung		Leukemia Mononuclear	
	Note: Fibrosis, histiocytic infiltrate, and alveolar metaplasia were secondary to leukemia, thus were not diagnosed separately.		
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 139

**TRT#:** 2  
**DOSE:** CONTROL

**SEX:** Female  
**DISP:** Moribund Sacrifice

**DAY ON TEST:** 706  
**HISTO:** 27382

**ORGAN AND ACCOUNTABLE SITE STATUS**

		Inflammation	Suppurative, Minimal
		Leukemia Mononuclear	
* Pancreas		Leukemia Mononuclear	
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
	[ Adenoma TGLS = 1-8 ]		
* Skin		Hyperkeratosis	Mild
	[ Hyperkeratosis TGLS = 4-7+12 ]		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-11 ]		
* Stomach, Forestomach		Leukemia Mononuclear	
* Thymus		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-11 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Urinary Bladder		Leukemia Mononuclear	
* Uterus		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH - Thymus Leukemia Mononuclear  
 CONTRIBUTORY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 140

TRT#: 2

SEX: Female

DAY ON TEST: 106

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27383

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney
* Larynx	* Liver	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Mammary Gland	* Ovary
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Lymph Node, Mesenteric

OBSERVATIONS

\* Lym Node Mand

Note: "Enlarged dark" mandibular lymph node was within normal limits microscopically.

* Nose	Inflammation	Suppurative, Mild
* Pancreas	Atrophy	Minimal
Tooth	Developmental Malformation	

[ Developmental Malformation TGLS = 2-9 ]

PRIMARY CAUSE OF DEATH - Tooth Developmental Malformation

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 141

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 716

HISTO: 27384

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Mammary Gland
* Ovary	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Glandular	* Trachea		

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Minimal
* Bone Marrow		Leukemia Mononuclear	
* Clitoral Gland		Adenoma	
[ Adenoma TGLS = 7-7 ]			
* Heart		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-7 ]			
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
[ Leukemia Mononuclear TGLS = 7-7 ]			
* Liver		Basophilic Focus	
		Degeneration	Fatty, Moderate
	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Minimal
[ Leukemia Mononuclear TGLS = 2,3-11+4 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2,3-11+4 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 141

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 716

HISTO: 27384

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose		Leukemia Mononuclear	
		Thrombosis	Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
	[ Adenoma TGLS = 1-8 ]		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-12 ]		
* Stomach, Forestomach		Leukemia Mononuclear	
* Thymus		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-12 ]		
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild
* Urinary Bladder		Leukemia Mononuclear	
* Uterus		Leukemia Mononuclear	
		Polyp Stromal	
	[ Leukemia Mononuclear TGLS = 6-8 ]		
	[ Polyp Stromal TGLS = 5-8 ]		

PRIMARY CAUSE OF DEATH - Thymus Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 142

TRT#: 2

SEX: Female

DAY ON TEST: 737

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27385

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Moderate
* Adrenal Medulla		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Mild
* Intestine Large, Cecum		Mineralization	Mild
* Kidney		Nephropathy	Moderate
* Liver		Degeneration	Fatty, Minimal
	Bile Duct	Hyperplasia	Mild
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Mammary Gland		Fibroadenoma	Multiple
	[ Fibroadenoma TGLS = 1,2,4-12+11+13 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 3-8 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 143

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Natural Death

DAY ON TEST: 464

HISTO: 27386

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Islets, Pancreatic	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Pituitary Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus

AUTO PRECLUDES DIAG.

\* Intestine Small, Jejunum

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Hematopoietic Cell Proliferation	Mild
		Mixed Cell Focus	
	Centrilobular	Necrosis	Mild
* Mammary Gland		Carcinoma	
[ Carcinoma TGLS = 1-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Spleen		Hematopoietic Cell Proliferation	Marked

PRIMARY CAUSE OF DEATH

- Mammary Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 144

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27387

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Mammary Gland	* Nose
* Ovary	* Parathyroid Gland	* Salivary Glands	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Adrenal Cortex		Adenoma	
		Leukemia Mononuclear	
[ Adenoma TGLS = 8-5 ]			
* Heart		Cardiomyopathy	Minimal
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
[ Nephropathy TGLS = 6-5 ]			
* Liver		Angiectasis	Minimal
		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
		Leukemia Mononuclear	
		Mixed Cell Focus	
[ Basophilic Focus TGLS = 5-4 ]			
[ Hepatodiaphragmatic Nodule TGLS = 4-11 ]			
[ Leukemia Mononuclear TGLS = 5-4 ]			
[ Mixed Cell Focus TGLS = 7-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-3+3A ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-5 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 144

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 27387

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 3-8 ]	Leukemia Mononuclear	
* Skin		Basal Cell Carcinoma	
	[ Basal Cell Carcinoma TGLS = 1-12 ]		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 1-12 ]		
* Thymus		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 1-12 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 145

TRT#: 2

SEX: Female

DAY ON TEST: 736

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27388

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
		Vacuolization Cytoplasmic	Mild
* Bone		Hyperostosis	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Degeneration	Fatty, Minimal
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Carcinoma	
	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 146

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27389

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Bone                     | * Brain                   | * Esophagus                 | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    | * Ovary                  |
| * Parathyroid Gland        | * Salivary Glands         | * Skin                      | * Stomach, Forestomach   |
| * Stomach, Glandular       | * Thyroid Gland           | * Trachea                   | * Urinary Bladder        |
| * Uterus                   |                           |                             |                          |

MISSING

- \* Clitoral Gland

OBSERVATIONS

- |                           |           |                                     |             |
|---------------------------|-----------|-------------------------------------|-------------|
| * Adrenal Cortex          |           | Hyperplasia                         | Mild        |
|                           |           | Hypertrophy                         | Minimal     |
|                           |           | Leukemia Mononuclear                |             |
| * Adrenal Medulla         |           | Leukemia Mononuclear                |             |
|                           |           | Pheochromocytoma Benign             |             |
| * Bone Marrow             |           | Leukemia Mononuclear                |             |
| * Heart                   |           | Cardiomyopathy                      | Minimal     |
| * Kidney                  |           | Leukemia Mononuclear                |             |
|                           |           | Nephropathy                         | Mild        |
| * Liver                   |           | Basophilic Focus                    |             |
|                           | Bile Duct | Hyperplasia                         | Minimal     |
|                           |           | Leukemia Mononuclear                |             |
|                           |           | Vacuolization Cytoplasmic           | Focal, Mild |
|                           |           | [ Leukemia Mononuclear TGLS = 4-4 ] |             |
| * Lung                    |           | Leukemia Mononuclear                |             |
| * Lymph Node, Bronchial   |           | Leukemia Mononuclear                |             |
| * Lymph Node, Mandibular  |           | Leukemia Mononuclear                |             |
| * Lymph Node, Mediastinal |           | Leukemia Mononuclear                |             |
| * Lymph Node, Mesenteric  |           | Leukemia Mononuclear                |             |
| * Mammary Gland           |           | Fibroadenoma                        |             |
|                           |           | [ Fibroadenoma TGLS = 1-12 ]        |             |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 146

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 737

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 27389

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi	Degeneration Inflammation	Hyaline, Mild Suppurative, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-11 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-11 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 147

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27390

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
Eye		Degeneration	Moderate
Note: Degeneration includes marked cataract, marked retinal atrophy, and synechiae.			
[ Degeneration TGLS = 1-12 ]			
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 6-5 ]			
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
		Eosinophilic Focus	
[ Basophilic Focus TGLS = 4,5-4+11 ]			
[ Eosinophilic Focus TGLS = 6-5 ]			
* Lung	Alveolar Epith	Hyperplasia	Mild
* Mammary Gland		Fibroadenoma	
		Hyperplasia	Atypical, Mild
[ Fibroadenoma TGLS = 3-7+13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Stomach, Glandular		Mineralization	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 147	<b>TRT#:</b> 2	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 736
	<b>DOSE:</b> CONTROL	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27390

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 148

TRT#: 2

SEX: Female

DAY ON TEST: 433

DOSE: CONTROL

DISP: Moribund Sacrifice

HISTO: 27391

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Larynx
* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder	* Uterus	

MISSING

* Lymph Node, Mediastinal	* Thymus
---------------------------	----------

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Liver		Degeneration	Fatty, Minimal
		Hepatodiaphragmatic Nodule	
Note: "Focus, 3mm diameter, white" was not apparent microscopically. [ Hepatodiaphragmatic Nodule TGLS = 5-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
[ Hyperplasia TGLS = 3-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
Zymbal's Gland		Carcinoma	
[ Carcinoma TGLS = 1,2-11+12 ]			

PRIMARY CAUSE OF DEATH

- Zymbal's Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 149

TRT#: 2

DOSE: CONTROL

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27392

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Mammary Gland	* Ovary	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
	[ Nephropathy TGLS = 3-5 ]		
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Eosinophilic Focus	
		Leukemia Mononuclear	
	[ Basophilic Focus TGLS = 3-5 ]		
	[ Clear Cell Focus TGLS = 3-5 ]		
	[ Eosinophilic Focus TGLS = 3-5 ]		
	[ Leukemia Mononuclear TGLS = 2-4 ]		
* Lung	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose		Inflammation	Suppurative, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 1-8 ]		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 149

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:** 737

**DOSE:** CONTROL

**DISP:** Terminal Sacrifice

**HISTO:** 27392

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Spleen

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 1-8 ]

\* Thyroid Gland

C Cell

Hyperplasia

Mild

---

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 150

TRT#: 2

SEX: Female

DAY ON TEST: 737

DOSE: CONTROL

DISP: Terminal Sacrifice

HISTO: 27393

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Eosinophilic Focus	
[ Basophilic Focus TGLS = 6-11 ]			
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,2-13+15+16+17 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Spleen		Accessory Spleen	
[ Accessory Spleen TGLS = 5-12 ]			
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 4-14 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 301

TRT#: 4

SEX: Female

DAY ON TEST: 600

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27644

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Clitoral Gland		Hyperplasia	Minimal
Eye		Cataract	Moderate
[ Cataract TGLS = 3-12 ]			
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
[ Vacuolization Cytoplasmic TGLS = 5-4+11 ]		Vacuolization Cytoplasmic	Focal, Moderate
* Lung			
Note: The "mottled" appearance noted at necropsy was not apparent at trim and the lungs were normal microscopically.			
* Nose	Respirat Epith	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 4-8 ]			
* Stomach, Forestomach		Hyperplasia	Squamous, Mild
* Stomach, Glandular		Mineralization	Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 302

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 660

HISTO: 27645

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Salivary Glands	* Skin
* Spleen	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Adrenal Medulla		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 6-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
[ Basophilic Focus TGLS = 6-5 ]		Degeneration	Fatty, Mild
[ Degeneration TGLS = 5-4 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1,2-12+13 ]		Galactocele	Moderate
[ Galactocele TGLS = 3-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 4-8 ]			
* Stomach, Forestomach		Necrosis	Marked
[ Necrosis TGLS = 7-8+11 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 302

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 660

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27645

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 303

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 737

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27646

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

**OBSERVATIONS**

* Adrenal Medulla		Hyperplasia	Mild
* Bone		Hyperostosis	Mild
Eye		Degeneration	Marked
Note: Degeneration included moderate cataract, marked retinal atrophy, posterior synechia, and proteinaceous fluid in the anterior chamber. [ Degeneration TGLS = 1-11 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
* Lung		Alveolar/Bronchiolar Carcinoma	
	Alveolus	Inflammation	Chronic, Minimal
[ Alveolar/Bronchiolar Carcinoma TGLS = 4-3A ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 3-12+13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 304

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27647

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone Marrow	* Brain	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Ovary	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

\* Lymph Node, Mediastinal

**OBSERVATIONS**

* Adrenal Cortex		Hypertrophy	Mild
* Bone		Hyperostosis	Moderate
* Clitoral Gland		Inflammation	Chronic Active, Marked
[ Inflammation TGLS = 3-7 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Mixed Cell Focus	
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Mammary Gland		Fibroadenoma	
		Inflammation	Chronic Active, Moderate
[ Fibroadenoma TGLS = 1-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
[ Hyperplasia TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 304

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27647

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 305

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 663

HISTO: 27648

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Brain                    | * Clitoral Gland          | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    |
| * Lymph Node, Bronchial  | * Ovary                    | * Pancreas                | * Parathyroid Gland         |
| * Salivary Glands        | * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        |
| * Thymus                 | * Trachea                  | * Urinary Bladder         |                             |

OBSERVATIONS

- |   |               |                      |                 |
|---|---------------|----------------------|-----------------|
| * Adrenal Cortex  |               | Leukemia Mononuclear |                 |
| * Adrenal Medulla   |               | Leukemia Mononuclear |                 |
| * Bone Marrow   |               | Leukemia Mononuclear |                 |
| Eye   |               | Degeneration         | Moderate        |
| Note: Degeneration includes moderate cataract and marked retinal atrophy. |               |                      |                 |
| [ Degeneration TGLS = 1-11 ]  |               |                      |                 |
| * Heart   |               | Leukemia Mononuclear |                 |
| [ Leukemia Mononuclear TGLS = 1-11 ]                                      |               |                      |                 |
| * Kidney  |               | Nephropathy          | Mild            |
| * Liver   |               | Degeneration         | Fatty, Moderate |
|   | Bile Duct     | Hyperplasia          | Mild            |
|   |               | Leukemia Mononuclear |                 |
|   | Centrilobular | Necrosis             | Mild            |
|   |               | Thrombosis           | Moderate        |
| [ Degeneration TGLS = 9-4 ]   |               |                      |                 |
| [ Leukemia Mononuclear TGLS = 6-4 ]                                       |               |                      |                 |
| * Lung  |               | Leukemia Mononuclear |                 |
| [ Leukemia Mononuclear TGLS = 9-4 ]                                       |               |                      |                 |
| * Lymph Node, Mandibular  |               | Leukemia Mononuclear |                 |
| * Lymph Node, Mediastinal   |               | Leukemia Mononuclear |                 |
| [ Leukemia Mononuclear TGLS = 3-2 ]                                       |               |                      |                 |
| * Lymph Node, Mesenteric  |               | Leukemia Mononuclear |                 |
| * Mammary Gland   |               | Fibroadenoma         |                 |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 305	<b>TRT#:</b> 4	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 663
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27648

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibroadenoma TGLS = 8-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Thrombosis	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 4-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-4 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 7-8 ]			

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PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 306

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 609

HISTO: 27649

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Bone                    | * Bone Marrow               | * Brain                  | * Clitoral Gland           |
| * Esophagus               | * Heart                     | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Larynx                    | * Mammary Gland          | * Pancreas                 |
| * Parathyroid Gland       | * Salivary Glands           | * Skin                   | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Trachea                | * Urinary Bladder          |
| * Uterus                  |                             |                          |                            |

MISSING

- |                         |                          |
|-------------------------|--------------------------|
| * Lymph Node, Bronchial | * Lymph Node, Mandibular |
|-------------------------|--------------------------|

OBSERVATIONS

- |                                      |               |                      |                  |
|--------------------------------------|---------------|----------------------|------------------|
| * Adrenal Cortex                     |               | Leukemia Mononuclear |                  |
| * Adrenal Medulla                    |               | Leukemia Mononuclear |                  |
| * Kidney                             |               | Leukemia Mononuclear |                  |
|                                      |               | Nephropathy          | Mild             |
| [ Leukemia Mononuclear TGLS = 3-2 ]  |               |                      |                  |
| * Liver                              |               | Degeneration         | Fatty, Marked    |
|                                      |               | Leukemia Mononuclear |                  |
|                                      | Centrilobular | Necrosis             | Minimal          |
| [ Leukemia Mononuclear TGLS = 5-4 ]  |               |                      |                  |
| * Lung                               |               | Leukemia Mononuclear |                  |
| Lymph Node                           | Pancreatic    | Leukemia Mononuclear |                  |
| [ Leukemia Mononuclear TGLS = 3-11 ] |               |                      |                  |
| * Lymph Node, Mediastinal            |               | Leukemia Mononuclear |                  |
| * Lymph Node, Mesenteric             |               | Leukemia Mononuclear |                  |
| Mesentery                            | Fat           | Necrosis             | Mild             |
| [ Necrosis TGLS = 2-12 ]             |               |                      |                  |
| * Nose                               | Olfactory Epi | Degeneration         | Hyaline, Minimal |
| * Ovary                              |               | Leukemia Mononuclear |                  |
| [ Leukemia Mononuclear TGLS = 2-12 ] |               |                      |                  |
| * Pituitary Gland                    | Pars Distalis | Cyst                 | Moderate         |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 306

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 609

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27649

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Pars Distalis

Hyperplasia

Minimal

[ Cyst TGLS = 1-8 ]

[ Hyperplasia TGLS = 1-8 ]

\* Spleen

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 4-11 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 307

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27650

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Adrenal Cortex		Hyperplasia Vacuolization Cytoplasmic	Mild Moderate
* Clitoral GI			
Note: "Skin, groin, mass" noted at necropsy was dilated duct filled with secretion.			
* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Carcinoma Nephropathy	Moderate
[ Carcinoma TGLS = 4-5 ]			
* Liver		Basophilic Focus Leukemia Mononuclear	
[ Basophilic Focus TGLS = 4-5 ]			
[ Leukemia Mononuclear TGLS = 4-5 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Mild Hyaline, Minimal
* Ovary		Cyst	Marked
[ Cyst TGLS = 3-12 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Skin		Hyperkeratosis	Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

---

**ANIMAL ID:** 307

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27650

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Hyperkeratosis TGLS = 5-11 ]

\* Spleen

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 5-11 ]

\* Thyroid Gland

C Cell

Hyperplasia

Moderate

---

PRIMARY CAUSE OF DEATH

-

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

**ANIMAL ID:** 308

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 516

**DOSE:** 10 MG/M3

**DISP:** Natural Death

**HISTO:** 27651

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

- |                 |                           |                     |                           |
|-----------------|---------------------------|---------------------|---------------------------|
| * Bone          | * Brain                   | * Clitoral Gland    | * Esophagus               |
| * Heart         | * Intestine Large, Rectum | * Lung              | * Lymph Node, Mediastinal |
| * Mammary Gland | * Ovary                   | * Parathyroid Gland | * Salivary Glands         |
| * Skin          | * Thymus                  | * Trachea           | * Urinary Bladder         |

**AUTO PRECLUDES DIAG.**

- |                          |                             |                          |                            |
|--------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Cortex         | * Adrenal Medulla           | * Bone Marrow            | * Intestine Large, Cecum   |
| * Intestine Large, Colon | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic     | * Kidney                    | * Larynx                 | * Liver                    |
| * Lymph Node, Bronchial  | * Lymph Node, Mandibular    | * Lymph Node, Mesenteric | * Nose                     |
| * Pancreas               | * Spleen                    | * Stomach, Forestomach   | * Stomach, Glandular       |
| * Thyroid Gland          | * Uterus                    |                          |                            |

**OBSERVATIONS**

- |                        |               |         |
|------------------------|---------------|---------|
| * Pituitary Gland      | Pars Distalis | Adenoma |
| [ Adenoma TGLS = 3-8 ] |               |         |

**PRIMARY CAUSE OF DEATH**

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 309

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27652

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lung	* Lymph Node, Mandibular
* Lymph Node, Mesenteric	* Ovary	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mediastinal
-------------------------	---------------------------

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver		Clear Cell Focus	
		Mixed Cell Focus	
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,2-11+12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Inflammation	Suppurative, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus	Endometrium	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 310

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 727

HISTO: 27653

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Clitoral Gland	* Esophagus
* Heart	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Parathyroid Gland	* Salivary Glands
* Skin	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Thymus

OBSERVATIONS

* Adrenal Cortex		Hypertrophy Leukemia Mononuclear Necrosis	Mild  Moderate
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear Lipoma Nephropathy	  Mild
[ Leukemia Mononuclear TGLS = 4-5 ] [ Lipoma TGLS = 4-5 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus Degeneration	 Fatty, Minimal
	Bile Duct	Hyperplasia Leukemia Mononuclear	 Minimal
[ Basophilic Focus TGLS = 3-4 ] [ Leukemia Mononuclear TGLS = 3-4 ]			
* Lung	Alveolar Epith	Hyperplasia Leukemia Mononuclear	 Mild
[ Hyperplasia TGLS = 9-11 ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:31

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 310

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 727

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27653

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration Thrombosis	Hyaline, Mild Hyaline, Minimal Marked
* Pancreas		Atrophy	Mild
* Pituitary Gland [ Adenoma TGLS = 2-8 ]	Pars Distalis	Adenoma	
* Spleen [ Leukemia Mononuclear TGLS = 5-12 ]		Leukemia Mononuclear	
* Stomach, Forestomach		Hyperplasia Leukemia Mononuclear Necrosis	Squamous, Moderate  Moderate
Note: "Thickened" stomach noted at trim was just contracted. [ Necrosis TGLS = 6-13 ]			
* Stomach, Glandular		Necrosis	Mild
* Thyroid Gland [ Adenoma TGLS = 1-2 ]	Follicular Cel	Adenoma	

**PRIMARY CAUSE OF DEATH** - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 311

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27654

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Clitoral Gland		Inflammation	Chronic Active, Mild
[ Inflammation TGLS = 12-19 ]			
* Heart		Cardiomyopathy	Minimal
* Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Moderate
	Bile Duct	Hepatodiaphragmatic Nodule	
		Hyperplasia	Moderate
		Leukemia Mononuclear	
[ Hepatodiaphragmatic Nodule TGLS = 8-11 ]			
[ Leukemia Mononuclear TGLS = 7-4 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-11 ]			
Lymph Node	Iliac	Leukemia Mononuclear	
	Pancreatic	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 10-17 ]			
[ Leukemia Mononuclear TGLS = 6-18 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:31  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>ANIMAL ID:</b> 311	<b>TRT#:</b> 4	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 736
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27654

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 9-16 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-14 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 3-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Thrombosis	Mild
* Ovary		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-15 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
[ Adenoma TGLS = 1-8 ]			
[ Leukemia Mononuclear TGLS = 3-15 ]			
* Spleen		Fibrosis	Mild
		Leukemia Mononuclear	
[ Fibrosis TGLS = 5-13 ]			
[ Leukemia Mononuclear TGLS = 4-12 ]			
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 312

TRT#: 4

SEX: Female

DAY ON TEST: 737

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27655

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Clitoral Gland [ Hyperplasia TGLS = 2-7 ]	Duct	Hyperplasia	Squamous, Mild
* Heart		Cardiomyopathy	Minimal
* Kidney [ Cyst TGLS = 4-5 ]		Cyst	Mild
		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver [ Basophilic Focus TGLS = 4-5 ]		Basophilic Focus	
* Mammary Gland [ Fibroadenoma TGLS = 3-11 ]		Fibroadenoma	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland [ Hyperplasia TGLS = 1-8 ]	Pars Distalis	Hyperplasia	Moderate
* Thymus [ Lymphoma Malignant TGLS = 1-8 ]		Lymphoma Malignant	
* Thyroid Gland	Follicular Cel C Cell	Carcinoma Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:31

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 313

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 693

HISTO: 27656

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Parathyroid Gland
* Salivary Glands	* Skin	* Trachea	* Uterus

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
		Leukemia Mononuclear	
		Vacuolization Cytoplasmic	Moderate
[ Leukemia Mononuclear TGLS = 5-5 ]			
* Adrenal Medulla		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-5 ]			
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-4 ]			
* Lung		Leukemia Mononuclear	
Note: Exposure-related lesions may have been obscured by leukemia.			
[ Leukemia Mononuclear TGLS = 2-11 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-5 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 313	<b>TRT#:</b> 4 <b>DOSE:</b> 10 MG/M3	<b>SEX:</b> Female <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 693 <b>HISTO:</b> 27656
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibroadenoma TGLS = 1-13 ]			
* Nose	Olfactory Epi	Degeneration Leukemia Mononuclear	Hyaline, Mild
* Ovary		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-13 ]			
* Pancreas		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-13 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia Leukemia Mononuclear	Minimal
[ Leukemia Mononuclear TGLS = 1-13 ]			
* Spleen		Fibrosis Leukemia Mononuclear	Mild
[ Leukemia Mononuclear TGLS = 3-12 ]			
* Stomach, Forestomach		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-5 ]			
* Stomach, Glandular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-5 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-12 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH	- Thymus Leukemia Mononuclear
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 314

TRT#: 4

SEX: Female

DAY ON TEST: 721

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27657

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Bone Marrow              | * Brain                   | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Larynx                  | * Lung                      |
| * Lymph Node, Bronchial  | * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  | * Ovary                     |
| * Parathyroid Gland      | * Pituitary Gland          | * Salivary Glands         | * Stomach, Forestomach      |
| * Stomach, Glandular     | * Thymus                   | * Trachea                 | * Urinary Bladder           |
| * Uterus                 |                            |                           |                             |

MISSING

- \* Lymph Node, Mandibular

INSUFFICIENT TISSUE

- \* Skin

OBSERVATIONS

- |                                    |               |                  |             |
|------------------------------------|---------------|------------------|-------------|
| * Adrenal Cortex                   |               | Hyperplasia      | Mild        |
|                                    |               | Necrosis         | Mild        |
| * Adrenal Medulla                  |               | Hyperplasia      | Mild        |
| * Clitoral Gland                   |               | Carcinoma        |             |
| [ Carcinoma TGLS = 5-5 ]           |               |                  |             |
| * Heart                            |               | Cardiomyopathy   | Mild        |
| * Islets, Pancreatic               |               | Hyperplasia      | Mild        |
| * Kidney                           |               | Nephropathy      | Minimal     |
| * Liver                            |               | Basophilic Focus |             |
|                                    |               | Degeneration     | Fatty, Mild |
|                                    | Centrilobular | Mixed Cell Focus |             |
| [ Degeneration TGLS = 4-4+15 ]     |               | Necrosis         | Mild        |
| [ Necrosis TGLS = 5-4+15 ]         |               |                  |             |
| Lymph Node                         | Pancreatic    | Pigmentation     | Moderate    |
| [ Pigmentation TGLS = 3-16 ]       |               |                  |             |
| * Mammary Gland                    |               | Fibroadenoma     |             |
| [ Fibroadenoma TGLS = 6-11+12+13 ] |               |                  |             |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 314

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 721

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27657

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mesentery [ Necrosis TGLS = 7-14 ]	Fat	Necrosis	Mild
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Minimal
* Spleen		Hematopoietic Cell Proliferation	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Mammary Gland Fibroadenoma		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 315

TRT#: 4

SEX: Female

DAY ON TEST: 737

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27658

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Ovary
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mediastinal
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OBSERVATIONS

* Brain		Astrocytoma Benign	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 2-5 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
[ Basophilic Focus TGLS = 2-5 ]			
* Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Metaplasia	Squamous, Minimal
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 4,5-11+12+14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus			

Note: "Mass" in body of uterus was portio vaginalis uteri which had undergone hypertrophy, as often seen in aged female rats.

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 316

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27659

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Ovary
* Parathyroid Gland	* Salivary Glands	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Clitoral Gland		Adenoma	
Eye		Degeneration	Moderate
Note: Degeneration included moderate cataract, marked retinal atrophy, and posterior synechia.			
[ Degeneration TGLS = 1-14 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
		Leukemia Mononuclear	
		Necrosis	Minimal
[ Hepatodiaphragmatic Nodule TGLS = 5-11 ]			
* Lung		Metaplasia	Focal, Moderate
[ Metaplasia TGLS = 3-3A ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 6-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Moderate
		Hyperplasia	Moderate
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 316

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27659

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 4-8 ]

\* Skin

Inflammation

Chronic Active, Moderate

[ Inflammation TGLS = 2-13 ]

\* Spleen

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 2-13 ]

\* Thyroid Gland

C Cell

Adenoma

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 317

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 637

HISTO: 27660

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Mammary Gland	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Clitoral Gland		Inflammation	Chronic Active, Moderate
[ Inflammation TGLS = 3-7 ]			
* Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-7 ]			
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Larynx	Epiglottis	Leukemia Mononuclear	
	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Moderate
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Basophilic Focus TGLS = 6-4 ]			
[ Leukemia Mononuclear TGLS = 6-4 ]			
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-2 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 317

TRT#: 4

SEX: Female

DAY ON TEST: 637

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27660

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Ovary		Leukemia Mononuclear	
* Pancreas		Leukemia Mononuclear	
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
[ Adenoma TGLS = 7-8 ]			
* Spleen		Hemorrhage	Moderate
		Leukemia Mononuclear	
[ Hemorrhage TGLS = 9-11 ]			
[ Leukemia Mononuclear TGLS = 8-11 ]			
* Stomach, Forestomach		Necrosis	Marked
* Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 318

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27661

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Stomach, Glandular		Mineralization	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 2-11 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 319

TRT#: 4

SEX: Female

DAY ON TEST: 735

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27662

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Ovary
* Parathyroid Gland	* Salivary Glands	* Skin	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Bronchial	* Thymus
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OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Mild
		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Marked
[ Adenoma TGLS = 8-17 ]			
[ Inflammation TGLS = 8-17 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
* Lung		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Carcinoma	
		Fibroadenoma	
[ Carcinoma TGLS = 2-14 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 319

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27662

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Fibroadenoma TGLS = 1-15 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 5-16 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Hyperplasia TGLS = 3-8 ]			
* Spleen		Fibrosis	Moderate
		Hemorrhage	Moderate
		Leukemia Mononuclear	
[ Fibrosis TGLS = 7-13 ]			
[ Hemorrhage TGLS = 6-12 ]			
[ Leukemia Mononuclear TGLS = 4-11 ]			
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Mild
* Thyroid Gland	C Cell	Carcinoma	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 320

TRT#: 4

SEX: Female

DAY ON TEST: 525

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27663

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Mild
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
* Kidney		Nephropathy	Minimal
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Minimal
		[ Basophilic Focus TGLS = 2-4 ]	
		[ Hepatodiaphragmatic Nodule TGLS = 3-11 ]	
		[ Leukemia Mononuclear TGLS = 2-4 ]	
* Lung		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 3-11 ]	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 1-2 ]	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
		[ Fibroadenoma TGLS = 4-12 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 320	<b>TRT#:</b> 4	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 525
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27663

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Respirat Epith	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
		Thrombosis	Mild
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-12 ]		
* Thymus		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 4-12 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal

---

PRIMARY CAUSE OF DEATH - Thymus Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 321

TRT#: 4

SEX: Female

DAY ON TEST: 583

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27664

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Mediastinal	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder
* Uterus			

MISSING

* Lymph Node, Bronchial	* Thymus
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-7 ]			
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-2 ]			
* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Hyperplasia	Minimal
		Leukemia Mononuclear	
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7,8-4+15 ]			
* Lung		Carcinoma	Metastatic (Zymbal'S Gland)
		Leukemia Mononuclear	
[ Carcinoma TGLS = 6-11 ]			
[ Leukemia Mononuclear TGLS = 7,8-4+15 ]			
* Lymph Node, Mandibular		Infiltration Cellular	Plasma Cell, Moderate
[ Infiltration Cellular TGLS = 1-7 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
Mesentery		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 321

TRT#: 4

SEX: Female

DAY ON TEST: 583

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27664

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Fat	Necrosis	Moderate
	[ Leukemia Mononuclear TGLS = 5-14 ]		
	[ Necrosis TGLS = 5-14 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 4-8 ]		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-12 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal
Zymbal's Gland		Carcinoma	
	[ Carcinoma TGLS = 3-13 ]		

PRIMARY CAUSE OF DEATH

- Zymbal's Gland Carcinoma

CONTRIBUTORY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 322

TRT#: 4

SEX: Female

DAY ON TEST: 737

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27665

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Moderate
* Clitoral Gland	Duct	Hyperplasia	Squamous, Moderate
[ Hyperplasia TGLS = 3-7 ]			
Eye		Degeneration	Marked
Note: Degeneration includes marked cataract, marked retinal atrophy, corneal mineralization, keratitis, and posterior synechia.			
[ Degeneration TGLS = 1-12 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 6-5 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
		Hepatodiaphragmatic Nodule	
[ Basophilic Focus TGLS = 6-5 ]			
[ Hepatodiaphragmatic Nodule TGLS = 5,8-11+15 ]			
* Mammary Gland		Fibroadenoma	
		Hyperplasia	Atypical, Moderate
[ Fibroadenoma TGLS = 4-13 ]			
Mesentery	Fat	Necrosis	Moderate
[ Necrosis TGLS = 7-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 322

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 737

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27665

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Pituitary Gland  
[ Adenoma TGLS = 2-8 ]

Respirat Epith  
Pars Distalis

Degeneration  
Adenoma

Hyaline, Minimal

\* Thyroid Gland

C Cell

Hyperplasia

Mild

---

PRIMARY CAUSE OF DEATH

-

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 323

TRT#: 4

SEX: Female

DAY ON TEST: 618

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27666

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Nose	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Marked
* Liver		Basophilic Focus	
* Lung	Alveolar Epith	Hyperplasia	Mild
[ Hyperplasia TGLS = 1-3A ]			
* Mammary Gland		Adenoma	
[ Adenoma TGLS = 3-11 ]			
* Ovary		Cyst	Moderate
[ Cyst TGLS = 4-7 ]			
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 324

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27667

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 325

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27668

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Clitoral Gland		Adenoma	
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
[ Nephropathy TGLS = 3-5 ]			
* Liver		Basophilic Focus	
[ Basophilic Focus TGLS = 3-5 ]			
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-11+7 ]			
Mesentery	Fat	Necrosis	Moderate
[ Necrosis TGLS = 4,5-12+13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 2-8 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 326

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27669

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

* Clitoral Gland	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 5-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
		Mixed Cell Focus	
[ Basophilic Focus TGLS = 5-5 ]			
[ Hepatodiaphragmatic Nodule TGLS = 4-4 ]			
[ Mixed Cell Focus TGLS = 5-5 ]			
* Mammary Gland		Carcinoma	
		Fibroadenoma	Multiple
[ Carcinoma TGLS = 7-12 ]			
[ Fibroadenoma TGLS = 3,6-11+7 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Stomach, Glandular		Mineralization	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 326	<b>TRT#:</b> 4	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27669

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

* Thyroid Gland	C Cell	Hyperplasia	Moderate
PRIMARY CAUSE OF DEATH	-		

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 327

TRT#: 4

SEX: Female

DAY ON TEST: 721

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27670

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lung
* Lymph Node, Bronchial	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Salivary Glands	* Skin	* Spleen	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Bone		Fibrous Osteodystrophy	Mild
		Hyperostosis	Marked
* Heart		Cardiomyopathy	Moderate
* Kidney	Renal Tubule	Hyperplasia	Moderate
		Nephropathy	Marked
	[ Nephropathy TGLS = 5-5 ]		
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver	Centrilobular	Basophilic Focus	
		Necrosis	Mild
	Note: Liver was pale due to anemia secondary to chronic nephropathy.		
	[ Basophilic Focus TGLS = 5-5 ]		
Lymph Node	Renal	Hemorrhage	Mild
	[ Hemorrhage TGLS = 6-12 ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 3-13 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Parathyroid Gland		Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

---

**ANIMAL ID:** 327

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 721

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27670

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pituitary Gland	Pars Distalis	Adenoma	
* Stomach, Forestomach [ Necrosis TGLS = 7-8+11 ]		Necrosis	Marked
* Thyroid Gland	C Cell	Hyperplasia	Minimal

---

PRIMARY CAUSE OF DEATH	- Liver Basophilic Focus
CONTRIBUTORY CAUSE OF DEATH	- Stomach;Forestomach Necrosis

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 328

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 671

HISTO: 27671

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Clitoral Gland	* Esophagus
Eye	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Hyperplasia	Minimal
		Leukemia Mononuclear	
* Brain		Thrombosis	Mild
Eye			
Note: Pallor of eyes noted at necropsy was due to anemia secondary to leukemia.			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Moderate
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-4 ]			
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Inflammation	Suppurative, Minimal
		Thrombosis	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

---

**ANIMAL ID:** 328

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 671

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27671

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Pituitary Gland

Pars Distalis

Adenoma

[ Adenoma TGLS = 1-8 ]

\* Spleen

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 3-4 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 329

TRT#: 4

SEX: Female

DAY ON TEST: 674

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27672

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Clitoral Gland	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Mammary Gland	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Trachea	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Mild
	Bile Duct	Hepatodiaphragmatic Nodule	
		Hyperplasia	Moderate
		Leukemia Mononuclear	
		Mixed Cell Focus	
	[ Hepatodiaphragmatic Nodule TGLS = 5-11 ]		
	[ Leukemia Mononuclear TGLS = 4-4 ]		
* Lung	Alveolus	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-11 ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Minimal
* Ovary		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 329

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 674

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27672

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pancreas		Leukemia Mononuclear	
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
	[ Hyperplasia TGLS = 3-8 ]	Leukemia Mononuclear	
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 6-12 ]		
* Stomach, Glandular		Mineralization	Minimal
* Thymus		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 6-12 ]		
* Thyroid Gland	C Cell	Adenoma	
* Urinary Bladder		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	- Thymus	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 330

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27673

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lung	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Degeneration	Cystic, Mild
		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	
	[ Hepatodiaphragmatic Nodule TGLS = 4-13 ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 1-11+12 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Olfactory Epi	Metaplasia	Focal, Marked
* Ovary		Cyst	Mild
	[ Cyst TGLS = 3-7 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 2-8 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 331

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27674

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Thymus

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney	Transit Epithe	Mineralization	Marked
		Nephropathy	Moderate
[ Nephropathy TGLS = 2-5 ]			
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
* Lung	Alveolar Epith	Hyperplasia	Marked
[ Hyperplasia TGLS = 1-3 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 3-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 4-8 ]			
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 332

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 485

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27675

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Liver
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus

**OBSERVATIONS**

* Brain			
Note: "Deformity" was secondary to pituitary tumor.			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Lymph Node, Mediastinal		Hemorrhage	Mild
[ Hemorrhage TGLS = 2-2 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-11 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 5-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 4-8 ]			

**PRIMARY CAUSE OF DEATH** - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 333

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 599

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27676

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

**MISSING**

\* Lymph Node, Bronchial

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Minimal
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-2 ]			
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
Note: "Focus, 8mm diameter, pale" described at necropsy was not apparent at trim or microscopically.			
[ Leukemia Mononuclear TGLS = 2-2 ]			
[ Nephropathy TGLS = 4-5 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Basophilic Focus TGLS = 4-5 ]			
[ Leukemia Mononuclear TGLS = 4-5 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-5 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-4 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 333	<b>TRT#:</b> 4	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 599
	<b>DOSE:</b> 10 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27676

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Pituitary Gland Pars Distalis Adenoma		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 334

TRT#: 4

SEX: Female

DAY ON TEST: 735

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 37677

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Minimal
* Adrenal Medulla		Hyperplasia	Moderate
* Clitoral Gland		Hyperplasia	Moderate
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
* Lung	Alveolar Epith	Alveolar/Bronchiolar Adenoma	
	[ Alveolar/Bronchiolar Adenoma TGLS = 2-3A ]	Hyperplasia	Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 1-8 ]		
* Thyroid Gland	C Cell	Adenoma	
* Uterus		Polyp Stromal	

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 335

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 692

HISTO: 27678

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	
		Mixed Cell Focus	
* Lung	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Minimal
* Mammary Gland		Fibroadenoma	Multiple
	[ Fibroadenoma TGLS = 1,2,3-11+12+13+14+15 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
* Spleen		Hematopoietic Cell Proliferation	Mild
* Uterus		Polyp Stromal	
	[ Polyp Stromal TGLS = 4-8 ]		

PRIMARY CAUSE OF DEATH

- Mammary Gland Fibroadenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 336

TRT#: 4

SEX: Female

DAY ON TEST: 736

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27679

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Larynx	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Minimal
* Islets, Pancreatic		Hyperplasia	Mild
* Kidney		Nephropathy	Moderate
* Liver		Basophilic Focus	
		Degeneration	Fatty, Mild
		Leukemia Mononuclear	
* Lung	Alveolar Epith	Hyperplasia	Mild
	Alveolus	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
	[ Inflammation TGLS = 5-3A ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	Multiple
	[ Fibroadenoma TGLS = 2,3-12+13 ]		
Mesentery	Fat	Necrosis	Mild
	[ Necrosis TGLS = 7-14 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Ovary		Granulosa Cell Tumor Malignant	
	[ Granulosa Cell Tumor Malignant TGLS = 6-7 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 4-8 ]		
* Skin			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 336

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27679

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: "Mass, groin, 5mm diameter" was normal secretion from clitoral glands.

\* Spleen

[ Leukemia Mononuclear TGLS = 4-8 ]

Leukemia Mononuclear

\* Thymus

[ Leukemia Mononuclear TGLS = 4-8 ]

Leukemia Mononuclear

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 337

TRT#: 4

SEX: Female

DAY ON TEST: 629

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27680

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Clitoral Gland		Adenoma	
[ Adenoma TGLS = 3-7+12 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
[ Vacuolization Cytoplasmic TGLS = 5-11 ]		Vacuolization Cytoplasmic	Focal, Mild
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 4,6-8+1 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 338

TRT#: 4

SEX: Female

DAY ON TEST: 581

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27681

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 339

TRT#: 4

SEX: Female

DAY ON TEST: 706

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27682

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
		Leukemia Mononuclear	
	[ Hepatodiaphragmatic Nodule TGLS = 6-4 ]		
* Lung	Alveolus	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 6-4 ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 4-12 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 3-8 ]		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 5-11 ]		
* Thyroid Gland	C Cell	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 339

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 706

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27682

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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CONTRIBUTORY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 340

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 640

HISTO: 27683

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Parathyroid Gland	* Skin	* Trachea	* Uterus

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear Necrosis	Mild
[ Leukemia Mononuclear TGLS = 9-15 ]			
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 11-1 ]			
* Clitoral Gland		Inflammation	Chronic Active, Mild
* Heart		Cardiomyopathy	Mild
		Leukemia Mononuclear Necrosis	Marked
* Intestine Large, Colon			
[ Necrosis TGLS = 9-15 ]			
* Kidney		Leukemia Mononuclear Nephropathy	Moderate
* Larynx		Leukemia Mononuclear	
* Liver		Basophilic Focus Degeneration	Fatty, Moderate
	Bile Duct	Hyperplasia	Mild
	Centrilobular	Leukemia Mononuclear Necrosis	Mild
[ Basophilic Focus TGLS = 6-4 ]			
[ Leukemia Mononuclear TGLS = 6-4 ]			
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-14 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>ANIMAL ID:</b> 340	<b>TRT#:</b> 4 <b>DOSE:</b> 10 MG/M3	<b>SEX:</b> Female <b>DISP:</b> Moribund Sacrifice	<b>DAY ON TEST:</b> 640 <b>HISTO:</b> 27683
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**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 8-6+12 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-6+12 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-2 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 8-6+12 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
		Leukemia Mononuclear	
* Ovary		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-13 ]			
* Pancreas		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-13 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Salivary Glands		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-11 ]			
* Stomach, Forestomach		Leukemia Mononuclear	
		Necrosis	Marked
[ Necrosis TGLS = 10-8 ]			
* Stomach, Glandular		Leukemia Mononuclear	
		Necrosis	Minimal
[ Leukemia Mononuclear TGLS = 10-8 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-11 ]			
* Thyroid Gland	C Cell	Hyperplasia	Moderate
* Urinary Bladder		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 340

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 640

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27683

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Thymus Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 341

TRT#: 4

SEX: Female

DAY ON TEST: 681

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27684

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Mild
* Clitoral Gland		Inflammation	Chronic Active, Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Moderate
[ Degeneration TGLS = 5-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 1-3A ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 6-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Ovary		Cyst	Moderate
[ Cyst TGLS = 4-7 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Urinary Bladder	Transit Epithe	Hyperplasia	Moderate
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 3-8 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 341

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 681

**DOSE:** 10 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27684

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 342

TRT#: 4

SEX: Female

DAY ON TEST: 735

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27685

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Ovary	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

MISSING

* Lymph Node, Mediastinal	* Parathyroid Gland
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Vacuolization Cytoplasmic	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Hyperplasia	Marked
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Mammary Gland		Fibroadenoma	Multiple
	[ Fibroadenoma TGLS = 1,2-11+12+13 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pancreas		Basophilic Focus	
	[ Basophilic Focus TGLS = 1,2-11+12+13 ]		
* Pituitary Gland	Pars Distalis	Hyperplasia	Marked

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 343

TRT#: 4

SEX: Female

DAY ON TEST: 737

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27686

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Bronchial	* Lymph Node, Mesenteric	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder		

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Adrenal Cortex		Degeneration	Cystic, Mild
		Hypertrophy	Mild
* Brain	Meninges	Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Mixed Cell Focus	
[ Mixed Cell Focus TGLS = 4-4 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Ovary		Cyst	Mild
[ Cyst TGLS = 2-11 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 3-8 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 344

TRT#: 4

SEX: Female

DAY ON TEST: 573

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27687

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Clitoral Gland		Adenoma	
[ Adenoma TGLS = 4-7 ]			
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,4-11+12+13+7 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Ovary		Cyst	Moderate
[ Cyst TGLS = 3-7 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH - Mammary Gland Fibroadenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 345

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 721

HISTO: 27688

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder	* Uterus	

MISSING

* Clitoral Gland	* Thymus
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OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
		Leukemia Mononuclear	
		Mixed Cell Focus	
[ Hepatodiaphragmatic Nodule TGLS = 7-15 ]			
[ Leukemia Mononuclear TGLS = 6-4 ]			
[ Mixed Cell Focus TGLS = 6-4 ]			
* Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-15 ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-11+12+13 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 2-14 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 345

**TRT#:** 4

**DOSE:** 10 MG/M3

**SEX:** Female

**DISP:** Moribund Sacrifice

**DAY ON TEST:** 721

**HISTO:** 27688

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland [ Adenoma TGLS = 3-8 ]	Pars Distalis	Adenoma	
* Spleen [ Leukemia Mononuclear TGLS = 3-8 ]		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 346

TRT#: 4

SEX: Female

DAY ON TEST: 608

DOSE: 10 MG/M3

DISP: Moribund Sacrifice

HISTO: 27689

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Lung	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mediastinal
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OBSERVATIONS

* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Eosinophilic Focus	
		Hepatodiaphragmatic Nodule	
[ Basophilic Focus TGLS = 3-4 ]			
[ Eosinophilic Focus TGLS = 4-4 ]			
[ Hepatodiaphragmatic Nodule TGLS = 3-4 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-11+7 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 347

TRT#: 4

SEX: Female

DAY ON TEST: 737

DOSE: 10 MG/M3

DISP: Terminal Sacrifice

HISTO: 27690

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Bone                     | * Brain                   | * Esophagus                 | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Islets, Pancreatic      | * Larynx                    | * Lymph Node, Mandibular |
| * Lymph Node, Mesenteric   | * Ovary                   | * Parathyroid Gland         | * Salivary Glands        |
| * Skin                     | * Stomach, Forestomach    | * Stomach, Glandular        | * Thymus                 |
| * Trachea                  | * Urinary Bladder         | * Uterus                    |                          |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                           |  |                      |                  |
|---------------------------|--|----------------------|------------------|
| * Adrenal Cortex          |  | Hyperplasia          | Minimal          |
|                           |  | Leukemia Mononuclear |                  |
| * Adrenal Medulla         |  | Leukemia Mononuclear |                  |
| * Bone Marrow             |  | Leukemia Mononuclear |                  |
| * Clitoral Gland          |  | Adenoma              |                  |
| * Heart                   |  | Cardiomyopathy       | Mild             |
| * Kidney                  |  | Nephropathy          | Moderate         |
| * Liver                   | Bile Duct                              | Hyperplasia          | Minimal          |
|                           |  | Leukemia Mononuclear |                  |
|                           | Centrilobular                          | Necrosis             | Minimal          |
| * Lung                    | Alveolus                               | Inflammation         | Chronic, Minimal |
|                           |  | Leukemia Mononuclear |                  |
|                           | [ Leukemia Mononuclear TGLS = 5-3+3A ] |                      |                  |
| * Lymph Node, Mediastinal |  | Leukemia Mononuclear |                  |
| * Mammary Gland           |  | Fibroadenoma         |                  |
|                           | [ Fibroadenoma TGLS = 2-12+7 ]         |                      |                  |
| * Nose                    | Olfactory Epi                          | Degeneration         | Hyaline, Mild    |
| * Pancreas                |  | Atrophy              | Minimal          |
| * Pituitary Gland         | Pars Distalis                          | Adenoma              |                  |
|                           | [ Adenoma TGLS = 3-8 ]                 |                      |                  |
| * Spleen                  |  | Leukemia Mononuclear |                  |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 347

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 737

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27690

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

[ Leukemia Mononuclear TGLS = 4-11 ]

\* Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 348

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27691

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Thymus	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 3-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Angiectasis	Mild
		Basophilic Focus	
[ Basophilic Focus TGLS = 2-4 ]		Degeneration	Fatty, Minimal
* Mammary Gland		Adenoma	
		Fibroadenoma	
[ Adenoma TGLS = 5-12 ]			
[ Fibroadenoma TGLS = 4-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 349

TRT#: 4

DOSE: 10 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27692

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Vacuolization Cytoplasmic	Moderate
* Bone		Hyperostosis	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 5-5 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Basophilic Focus TGLS = 5-5 ]			
[ Clear Cell Focus TGLS = 5-5 ]			
* Mammary Gland		Adenoma	
		Fibroadenoma	Multiple
[ Adenoma TGLS = 4-11 ]			
[ Fibroadenoma TGLS = 1,3-12+11+7 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 350

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 10 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27693

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Spleen	* Stomach, Forestomach	* Thymus	* Trachea
* Urinary Bladder			

**OBSERVATIONS**

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
		Mixed Cell Focus	
[ Basophilic Focus TGLS = 5-11 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 3-13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Salivary Glands		Atrophy	Mild
* Skin		Inflammation	Chronic Active, Moderate
[ Inflammation TGLS = 2-12 ]			
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 4-8 ]			

**PRIMARY CAUSE OF DEATH** -

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 501

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27544

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 2-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
* Lung	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 3-3A ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 4-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Ovary		Hyperplasia	Tubular, Marked
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 501

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27544

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 502

TRT#: 6

SEX: Female

DAY ON TEST: 534

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27545

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                            |                           |                             |
|---------------------------|----------------------------|---------------------------|-----------------------------|
| * Adrenal Cortex          | * Adrenal Medulla          | * Bone                    | * Bone Marrow               |
| * Brain                   | * Clitoral Gland           | * Esophagus               | * Heart                     |
| * Intestine Large, Cecum  | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum  | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   | * Ovary                   | * Pancreas                  |
| * Parathyroid Gland       | * Salivary Glands          | * Skin                    | * Spleen                    |
| * Stomach, Glandular      | * Thymus                   | * Trachea                 | * Urinary Bladder           |
| * Uterus                  |                            |                           |                             |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |                        |                                 |                  |                   |
|------------------------|---------------------------------|------------------|-------------------|
| * Kidney               |                                 | Nephropathy      | Minimal           |
| * Larynx               | Epiglottis                      | Metaplasia       | Squamous, Mild    |
| * Liver                |                                 | Basophilic Focus |                   |
|                        | Bile Duct                       | Hyperplasia      | Minimal           |
| * Lung                 | Alveolus                        | Inflammation     | Chronic, Mild     |
| * Mammary Gland        |                                 | Fibroadenoma     |                   |
|                        | [ Fibroadenoma TGLS = 2-12+13 ] |                  |                   |
| * Nose                 | Olfactory Epi                   | Degeneration     | Hyaline, Moderate |
|                        | Respirat Epith                  | Degeneration     | Hyaline, Mild     |
| * Pituitary Gland      | Pars Distalis                   | Adenoma          |                   |
|                        | [ Adenoma TGLS = 1-8 ]          |                  |                   |
| * Stomach, Forestomach |                                 | Hyperplasia      | Squamous, Minimal |
|                        | [ Hyperplasia TGLS = 3-11 ]     |                  |                   |
| * Thyroid Gland        | C Cell                          | Hyperplasia      | Minimal           |

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 503

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 729

HISTO: 27546

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Brain			
Note: "Dilatation" noted at trim was secondary to pituitary mass.			
* Clitoral Gland		Carcinoma	
[ Carcinoma TGLS = 1-12 ]			
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
* Lung	Alveolar Epith	Hyperplasia	Moderate
	Alveolus	Inflammation	Chronic, Mild
[ Hyperplasia TGLS = 4-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Moderate
Tongue		Squamous Cell Papilloma	
[ Squamous Cell Papilloma TGLS = 5-13 ]			

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 503

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27546

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 504

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27547

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Ovary	* Parathyroid Gland	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Clitoral Gland		Adenoma	
* Heart		Cardiomyopathy	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-7+11 ]			
Mesentery	Fat	Necrosis	Moderate
[ Necrosis TGLS = 4-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 504

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 737

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27547

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Salivary Glands		Atrophy	Mild
* Spleen		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 505

TRT#: 6

SEX: Female

DAY ON TEST: 735

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27548

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 3-3+3A ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 506

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27549

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	
[ Hepatodiaphragmatic Nodule TGLS = 1-11 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Mammary Gland		Adenoma	
[ Adenoma TGLS = 2-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
* Thyroid Gland	C Cell	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 507

TRT#: 6

SEX: Female

DAY ON TEST: 464

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27550

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Clitoral Gland		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Cyst	Mild
		Nephropathy	Minimal
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Mammary Gland		Fibroadenoma	Multiple
	[ Fibroadenoma TGLS = 1,3-11+12+13+14+15 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 2-8 ]		
* Spleen		Hematopoietic Cell Proliferation	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH - Mammary Gland Fibroadenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 508

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27551

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Clitoral Gland		Adenoma	
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
		Hepatodiaphragmatic Nodule	
[ Hepatodiaphragmatic Nodule TGLS = 1-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 2-3+3A ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 509

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27552

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	Harderian Gland	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas
* Parathyroid Gland	* Skin	* Spleen	* Stomach, Forestomach
* Thymus	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Moderate
		Hypertrophy	Moderate
Harderian Gland			
Note: "Dark" harderian gland described at necropsy was within normal limits microscopically.			
* Heart		Cardiomyopathy	Minimal
		Schwannoma Benign	
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
	Bile Duct	Hyperplasia	Minimal
* Lung	Alveolus	Inflammation	Chronic, Minimal
[ Inflammation TGLS = 4-3+11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Ovary		Cyst	Minimal
[ Cyst TGLS = 3-7 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
[ Hyperplasia TGLS = 2-8 ]			
* Salivary Glands		Atrophy	Mild
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 509

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27552

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 510

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 560

HISTO: 27553

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	Spinal Cord	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Adrenal Cortex		Degeneration	Cystic, Moderate
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Clear Cell Focus	
* Lung	Alveolar Epith Alveolus	Hyperplasia Inflammation Fibroadenoma	Moderate Chronic, Minimal
* Mammary Gland [ Fibroadenoma TGLS = 4-12 ]			
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Minimal
* Pituitary Gland [ Adenoma TGLS = 3-8 ]	Pars Distalis	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 511

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27554

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder		

INSUFFICIENT TISSUE

\* Intestine Large, Rectum

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
[ Nephropathy TGLS = 6-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Basophilic Focus TGLS = 6-5 ]			
[ Leukemia Mononuclear TGLS = 5-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 2,3-3+3A+11 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 7-12+13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Moderate
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-8 ]			
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 511

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 737

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27554

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Uterus

Polyp Stromal

[ Polyp Stromal TGLS = 4-8 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 512

TRT#: 6

SEX: Female

DAY ON TEST: 326

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27555

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Liver
* Lung	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Moderate
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
* Spleen		Hematopoietic Cell Proliferation	Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Polyp Stromal	

[ Polyp Stromal TGLS = 1,3-11+12 ]

PRIMARY CAUSE OF DEATH

- Uterus Polyp Stromal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 513

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27556

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                             |                          |                            |
|---------------------------|-----------------------------|--------------------------|----------------------------|
| * Adrenal Medulla         | * Bone                      | * Bone Marrow            | * Brain                    |
| * Clitoral Gland          | * Esophagus                 | * Intestine Large, Cecum | * Intestine Large, Colon   |
| * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum | * Intestine Small, Jejunum |
| * Islets, Pancreatic      | * Larynx                    | * Lymph Node, Bronchial  | * Lymph Node, Mandibular   |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric    | * Ovary                  | * Parathyroid Gland        |
| * Salivary Glands         | * Skin                      | * Spleen                 | * Stomach, Forestomach     |
| * Stomach, Glandular      | * Thymus                    | * Trachea                | * Urinary Bladder          |
| * Uterus                  |                             |                          |                            |

OBSERVATIONS

- |  |  |                  |                   |
|--|--|------------------|-------------------|
| * Adrenal Cortex   |  | Hyperplasia      | Mild              |
|  |  | Hypertrophy      | Minimal           |
| * Heart  |  | Cardiomyopathy   | Minimal           |
| * Kidney   |  | Nephropathy      | Mild              |
| * Liver  |  | Basophilic Focus |                   |
|  |  | Degeneration     | Fatty, Minimal    |
|  |  | Mixed Cell Focus |                   |
|  |  | Necrosis         | Mild              |
| Note: Some of the "foci, 2mm, dark" described at necropsy were blood in normal hepatic vessels.<br>[ Mixed Cell Focus TGLS = 6-4 ]<br>[ Necrosis TGLS = 5-13 ] |  |                  |                   |
| * Lung   | Alveolar Epith                         | Hyperplasia      | Mild              |
|  | Alveolus                               | Inflammation     | Chronic, Mild     |
|  | [ Inflammation TGLS = 3,4-11+12+3+3A ] |                  |                   |
| * Mammary Gland  |  | Carcinoma        |                   |
|  |  | Fibroadenoma     |                   |
| Note: Carcinoma is within the fibroadenoma.<br>[ Carcinoma TGLS = 1-15 ]<br>[ Fibroadenoma TGLS = 1-15 ]   |  |                  |                   |
| * Nose   | Olfactory Epi                          | Degeneration     | Hyaline, Moderate |
|  | Respirat Epith                         | Degeneration     | Hyaline, Mild     |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 513

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27556

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 514

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 653

HISTO: 27557

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Moderate
* Adrenal Medulla		Hyperplasia	Minimal
* Bone Marrow		Leukemia Mononuclear	
* Brain	Meninges	Granular Cell Tumor Benign	
* Clitoral Gland		Adenoma	
* Heart		Cardiomyopathy	Moderate
		Leukemia Mononuclear	
		[ Cardiomyopathy TGLS = 3-4 ]	
		[ Leukemia Mononuclear TGLS = 3-4 ]	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
		[ Leukemia Mononuclear TGLS = 7-13 ]	
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Angiectasis	Minimal
		Basophilic Focus	
		Degeneration	Fatty, Mild
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 5,6-4+11 ]	
* Lung		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 5,6-4+11 ]	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>ANIMAL ID:</b> 514	<b>TRT#:</b> 6	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 653
	<b>DOSE:</b> 30 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27557

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 2-2 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 11-14 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Ovary		Cyst	Moderate
		Leukemia Mononuclear	
[ Cyst TGLS = 10-7 ]			
[ Leukemia Mononuclear TGLS = 10-7 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
[ Hyperplasia TGLS = 4-8 ]			
* Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
[ Fibrosis TGLS = 9-12 ]			
[ Leukemia Mononuclear TGLS = 8-12 ]			
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen Leukemia Mononuclear		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 515

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27558

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Brain	* Clitoral Gland
* Esophagus	* Heart	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Hyperplasia Leukemia Mononuclear	Mild
[ Leukemia Mononuclear TGLS = 3-7 ]			
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2-2 ]			
* Kidney		Nephropathy Basophilic Focus	Minimal
* Liver	Bile Duct	Hyperplasia Leukemia Mononuclear	Mild
[ Basophilic Focus TGLS = 8-4 ]	Centrilobular	Necrosis	Minimal
[ Leukemia Mononuclear TGLS = 8-4 ]			
* Lung	Alveolus	Inflammation Leukemia Mononuclear Leukemia Mononuclear	Chronic, Minimal
* Lymph Node, Mandibular			
[ Leukemia Mononuclear TGLS = 3-7 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-2 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 515	<b>TRT#:</b> 6	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 730
	<b>DOSE:</b> 30 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27558

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibroadenoma TGLS = 6-12 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 9-13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Thrombosis	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 5-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-11 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 516

TRT#: 6

SEX: Female

DAY ON TEST: 737

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27559

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Clitoral Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Mammary Gland		Fibroadenoma	Multiple
		[ Fibroadenoma TGLS = 1,3-7+11+12 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Inflammation	Suppurative, Moderate
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
		[ Hyperplasia TGLS = 2-8 ]	
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 517

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27560

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Adrenal Medulla		Hyperplasia	Moderate
* Clitoral Gland		Carcinoma	
[ Carcinoma TGLS = 2-11 ]			
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
Note: Kidneys were pale due to anemia secondary to clitoral tumor.			
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
		Hematopoietic Cell Proliferation	Minimal
Note: Liver was pale due to anemia secondary to clitoral tumor.			
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,3-12+13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
* Spleen		Hematopoietic Cell Proliferation	Marked
[ Hematopoietic Cell Proliferation TGLS = 4-4 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 518

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 721

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27561

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Salivary Glands	* Skin	* Stomach, Forestomach	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Parathyroid Gland
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**OBSERVATIONS**

* Adrenal Medulla		Pheochromocytoma Benign	
* Clitoral Gland		Carcinoma	
* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Carcinoma	
Note: Carcinoma involved both kidneys via extension and/or metastasis.			
[ Carcinoma TGLS = 5-12+13+14+15+16+17 ]			
* Liver		Basophilic Focus	
[ Basophilic Focus TGLS = 3-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
Lymph Node	Renal	Ectasia	Mild
	Pancreatic	Hemorrhage	Mild
[ Ectasia TGLS = 6-5 ]			
[ Hemorrhage TGLS = 2-11 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 6-5 ]			
Mesentery	Artery	Inflammation	Chronic Active, Moderate
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
	Artery	Inflammation	Moderate
[ Inflammation TGLS = 4-18 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 518

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 721

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27561

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**ORGAN AND ACCOUNTABLE SITE STATUS**

\* Pituitary Gland  
[ Adenoma TGLS = 1-8 ]

Pars Distalis

Adenoma

\* Spleen

Hematopoietic Cell Proliferation

Marked

\* Stomach, Glandular

Mineralization

Mild

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**PRIMARY CAUSE OF DEATH**

- Kidney Renal Tubule Carcinoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 519

TRT#: 6

SEX: Female

DAY ON TEST: 693

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27562

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

* Clitoral Gland	* Lymph Node, Bronchial
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OBSERVATIONS

* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
	[ Hepatodiaphragmatic Nodule TGLS = 3-15 ]		
* Lung	Alveolus	Inflammation	Chronic, Mild
	[ Inflammation TGLS = 2,5-3+3A+14 ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 4,6-7+11+12+13+16 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
		Inflammation	Suppurative, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 1-8 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

CONTRIBUTORY CAUSE OF DEATH - Mammary Gland Fibroadenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 520

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27563

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Moderate
* Heart		Cardiomyopathy	Minimal
* Intestine Small, Ileum		Inflammation	Chronic Active, Moderate
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 1-3+11 ]			
* Mammary Gland		Adenoma	
		Fibroadenoma	
[ Adenoma TGLS = 1-3+11 ]			
[ Fibroadenoma TGLS = 5-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 3,4-8 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 521

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27564

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 1-8 ]

\* Salivary Glands

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 1-8 ]

\* Spleen

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 1-8 ]

\* Stomach, Forestomach

Leukemia Mononuclear

\* Stomach, Glandular

Leukemia Mononuclear

\* Thymus

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 1-8 ]

\* Thyroid Gland

C Cell

Hyperplasia

Mild

\* Urinary Bladder

Leukemia Mononuclear

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 522

TRT#: 6

SEX: Female

DAY ON TEST: 737

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27565

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Clitoral Gland		Inflammation	Chronic Active, Marked
[ Inflammation TGLS = 7-7 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Eosinophilic Focus	
		Hepatodiaphragmatic Nodule	
		Mixed Cell Focus	
[ Eosinophilic Focus TGLS = 2-11 ]			
[ Hepatodiaphragmatic Nodule TGLS = 2-11 ]			
[ Mixed Cell Focus TGLS = 3-12 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 5-3A ]			
* Mammary Gland		Adenoma	
		Fibroadenoma	
[ Adenoma TGLS = 8-14 ]			
[ Fibroadenoma TGLS = 1-13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 522

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 737

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27565

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Ovary [ Cyst TGLS = 6-7 ]	Respirat Epith	Degeneration Cyst	Hyaline, Mild Mild
* Pituitary Gland [ Adenoma TGLS = 4-8 ]	Pars Distalis	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Mild

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 523

TRT#: 6

SEX: Female

DAY ON TEST: 706

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27566

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone Marrow	* Brain	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Parathyroid Gland	* Salivary Glands	* Spleen	* Stomach, Forestomach
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

* Clitoral Gland	* Mammary Gland
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Bone		Hyperostosis	Moderate
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
* Skin	Subcut Tiss	Lipoma	
	[ Lipoma TGLS = 1-12 ]		
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH - Skin Subcut Tiss Lipoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 524

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27567

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mediastinal
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OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Minimal
* Clitoral Gland		Carcinoma	
[ Carcinoma TGLS = 1-14 ]			
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Liver		Basophilic Focus	
* Lung	Alveolus	Inflammation	Chronic, Minimal
[ Inflammation TGLS = 4,5-3A+11 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Stomach, Glandular		Inflammation	Chronic Active, Minimal
[ Inflammation TGLS = 6-12 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 525

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 583

HISTO: 27568

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Kidney	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-11+12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Moderate
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Mammary Gland Fibroadenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 526

TRT#: 6

SEX: Female

DAY ON TEST: 706

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27569

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Brain		Carcinoma	Metastatic (Zymbal'S Gland)
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
[ Nephropathy TGLS = 6-5 ]			
* Liver		Basophilic Focus	
		Degeneration	Fatty, Moderate
		Leukemia Mononuclear	
[ Basophilic Focus TGLS = 5-4 ]			
[ Degeneration TGLS = 5-4 ]			
[ Leukemia Mononuclear TGLS = 6-5 ]			
* Lung	Alveolus	Carcinoma	Metastatic (Zymbal'S Gland)
		Inflammation	Chronic, Mild
		Leukemia Mononuclear	
* Lymph Node, Mandibular		Carcinoma	Metastatic (Zymbal'S Gland)
[ Carcinoma TGLS = 3-7 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
		Inflammation	Suppurative, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 526

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 706

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27569

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen		Leukemia Mononuclear	
* Stomach, Glandular		Necrosis	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Minimal
Zymbal's Gland		Carcinoma	
[ Carcinoma TGLS = 4-11 ]			

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**PRIMARY CAUSE OF DEATH**

- Zymbal's Gland Carcinoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 527

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 650

HISTO: 27570

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Clitoral Gland	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Rectum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Mammary Gland	* Parathyroid Gland	* Salivary Glands	* Skin
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Minimal
* Intestine Large, Colon		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-12 ]			
* Intestine Small, Duodenum		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-12 ]			
* Intestine Small, Ileum		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-12 ]			
* Intestine Small, Jejunum		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-12 ]			
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Angiectasis	Minimal
		Basophilic Focus	
		Degeneration	Fatty, Marked
[ Degeneration TGLS = 3-4 ]		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
* Lym Node Mand			

Note: "Enlarged, 8mm diameter" mandibular lymph node noted at necropsy was within normal limits microscopically.

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 527

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 650

HISTO: 27570

ORGAN AND ACCOUNTABLE SITE STATUS

* Lymph Node, Bronchial [ Leukemia Mononuclear TGLS = 6-12 ]		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric [ Leukemia Mononuclear TGLS = 6-12 ]		Leukemia Mononuclear	
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Mild
* Ovary		Leukemia Mononuclear	
* Pancreas		Leukemia Mononuclear	
* Pituitary Gland [ Adenoma TGLS = 2-8 ]	Pars Distalis	Adenoma Leukemia Mononuclear	
* Spleen [ Hemorrhage TGLS = 5-11 ] [ Leukemia Mononuclear TGLS = 4-11 ]		Hemorrhage Leukemia Mononuclear	Mild
* Stomach, Forestomach		Leukemia Mononuclear	
* Stomach, Glandular		Leukemia Mononuclear	
* Thymus [ Leukemia Mononuclear TGLS = 4-11 ]		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

CONTRIBUTORY CAUSE OF DEATH

- Spleen Leukemia Mononuclear;Thymus Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 528

TRT#: 6

SEX: Female

DAY ON TEST: 737

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27571

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Trachea	* Urinary Bladder	* Uterus	

MISSING

\* Thymus

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Clear Cell Focus TGLS = 1-11 ]			
* Lung	Alveolus	Inflammation	Chronic, Moderate
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Carcinoma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 529

TRT#: 6

SEX: Female

DAY ON TEST: 604

DOSE: 30 MG/M3

DISP: Natural Death

HISTO: 27572

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Colon	* Islets, Pancreatic	* Liver
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

MISSING

\* Parathyroid Gland

AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Larynx		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Pheochromocytoma Benign	
[ Pheochromocytoma Benign TGLS = 3-11 ]			
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 530

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 729

HISTO: 27573

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
* Lung	Alveolus	Inflammation	Chronic, Mild
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 1-11+12+13 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
	[ Hyperplasia TGLS = 2-8 ]		
* Spleen		Hematopoietic Cell Proliferation	Mild
	[ Hematopoietic Cell Proliferation TGLS = 6-4 ]		
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild
* Uterus		Polyp Stromal	Multiple
		Sarcoma Stromal	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 530

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27573

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: There are extensive areas of decidual alteration in TGL 3.

[ Polyp Stromal TGLS = 4,5-8+15 ]

[ Sarcoma Stromal TGLS = 3-14 ]

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PRIMARY CAUSE OF DEATH - Mammary Gland Fibroadenoma

CONTRIBUTORY CAUSE OF DEATH - Uterus Sarcoma Stromal

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 531

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27574

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Clitoral Gland		Inflammation	Chronic Active, Moderate
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Hepatodiaphragmatic Nodule	
[ Hepatodiaphragmatic Nodule TGLS = 4,5-11+12 ]			
* Lung	Alveolar Epith Alveolus	Hyperplasia Inflammation	Minimal Chronic, Moderate
[ Inflammation TGLS = 2-3+3A ]			
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Mild
* Ovary		Cyst	Mild
[ Cyst TGLS = 3-7 ]			
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Cyst	Moderate
[ Cyst TGLS = 1-8 ]			
* Stomach, Glandular		Necrosis	Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 532

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27575

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder		

MISSING

\* Thymus

OBSERVATIONS

* Adrenal Cortex		Degeneration	Cystic, Moderate
		Hyperplasia	Minimal
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Clear Cell Focus	
* Lung	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Mild
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,2-11+12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Moderate
* Uterus		Deciduoma Benign	
[ Deciduoma Benign TGLS = 4-8 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 533

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27576

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                           |                            |                           |                             |
|---------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                    | * Bone Marrow              | * Brain                   | * Esophagus                 |
| * Intestine Large, Cecum  | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum  | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Mandibular    |
| * Lymph Node, Mediastinal | * Lymph Node, Mesenteric   | * Mammary Gland           | * Ovary                     |
| * Parathyroid Gland       | * Salivary Glands          | * Skin                    | * Spleen                    |
| * Stomach, Forestomach    | * Thymus                   | * Trachea                 | * Urinary Bladder           |
| * Uterus                  |                            |                           |                             |

MISSING

- \* Lymph Node, Bronchial

OBSERVATIONS

- |  |                |                            |                   |
|--|----------------|----------------------------|-------------------|
| * Adrenal Cortex                           |                | Hyperplasia                | Mild              |
| * Adrenal Medulla                          |                | Hyperplasia                | Mild              |
| * Clitoral Gland                           |                | Carcinoma                  |                   |
| [ Carcinoma TGLS = 1-12 ]                  |                |                            |                   |
| * Heart                                    |                | Cardiomyopathy             | Minimal           |
| * Kidney                                   |                | Nephropathy                | Mild              |
| * Larynx                                   | Epiglottis     | Metaplasia                 | Squamous, Minimal |
| * Liver                                    |                | Basophilic Focus           |                   |
|  |                | Hepatodiaphragmatic Nodule |                   |
|  | Bile Duct      | Hyperplasia                | Minimal           |
|  |                | Mixed Cell Focus           |                   |
| [ Hepatodiaphragmatic Nodule TGLS = 3-11 ] |                |                            |                   |
| * Lung                                     | Alveolus       | Inflammation               | Chronic, Mild     |
| [ Inflammation TGLS = 4,5-3A+3 ]           |                |                            |                   |
| * Nose                                     | Olfactory Epi  | Degeneration               | Hyaline, Moderate |
|  | Respirat Epith | Degeneration               | Hyaline, Mild     |
| * Pancreas                                 |                | Atrophy                    | Mild              |
| * Pituitary Gland                          | Pars Distalis  | Adenoma                    |                   |
| [ Adenoma TGLS = 2-8 ]                     |                |                            |                   |
| * Stomach, Glandular                       |                | Necrosis                   | Moderate          |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 533

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27576

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Thyroid Gland

C Cell

Adenoma

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 534

TRT#: 6

SEX: Female

DAY ON TEST: 736

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27577

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Parathyroid Gland	* Salivary Glands	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder

MISSING

\* Thymus

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Moderate
* Heart		Cardiomyopathy	Minimal
* Islets, Pancreatic		Adenoma	
* Kidney		Lipoma	
		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Mixed Cell Focus	
		[ Basophilic Focus TGLS = 5-4 ]	
* Lung	Alveolus	Inflammation	Chronic, Mild
		[ Inflammation TGLS = 6-3+3A ]	
* Mammary Gland		Fibroadenoma	Multiple
		[ Fibroadenoma TGLS = 1,2-13+14+15 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
* Skin		Inflammation	Chronic Active, Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 534

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27577

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Uterus

Polyp Stromal

Multiple

[ Polyp Stromal TGLS = 3,4-11+12 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 535

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Natural Death

DAY ON TEST: 615

HISTO: 27578

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Thyroid Gland	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Lymph Node, Mandibular

AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum		

OBSERVATIONS

* Adrenal Cortex		Vacuolization Cytoplasmic	Mild
* Clitoral Gland		Inflammation	Chronic Active, Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Mixed Cell Focus	
[ Mixed Cell Focus TGLS = 3-12 ]			
* Lung	Alveolar Epith Alveolus	Hyperplasia Inflammation	Marked Chronic, Minimal
[ Hyperplasia TGLS = 4-3A ]			
[ Inflammation TGLS = 5-11 ]			
* Mammary Gland		Carcinoma	
[ Carcinoma TGLS = 2-13 ]			
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 535

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 615

**DOSE:** 30 MG/M3

**DISP:** Natural Death

**HISTO:** 27578

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 536

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 583

HISTO: 27579

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Hyperplasia	Mild
		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Angiectasis	Mild
		Basophilic Focus	
		Eosinophilic Focus	
[ Angiectasis TGLS = 5-13 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 4-3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
* Spleen		Hematopoietic Cell Proliferation	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Mild
Zymbal's Gland		Carcinoma	
[ Carcinoma TGLS = 1-11+12 ]			

PRIMARY CAUSE OF DEATH

- Zymbal's Gland Carcinoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 537

TRT#: 6

SEX: Female

DAY ON TEST: 541

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27580

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
		Hepatodiaphragmatic Nodule	
[ Hepatodiaphragmatic Nodule TGLS = 3-11 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
* Nose	Olfactory Epi	Degeneration	Hyaline, Mild
	Respirat Epith	Degeneration	Hyaline, Mild
		Inflammation	Suppurative, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 538

TRT#: 6

SEX: Female

DAY ON TEST: 665

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27581

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver	Bile Duct	Degeneration	Fatty, Moderate
		Hyperplasia	Minimal
		Leukemia Mononuclear	
[ Degeneration TGLS = 3-4 ]			
* Lung	Alveolar Epith	Hyperplasia	Mild
	Alveolus	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Mesentery	Fat	Necrosis	Moderate
[ Necrosis TGLS = 5-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2,4-8+1 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 2,4-8+1 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 539

TRT#: 6

SEX: Female

DAY ON TEST: 688

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27582

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Minimal
* Liver		Basophilic Focus	
* Lung	Alveolar Epith Alveolus	Hyperplasia Inflammation	Minimal Chronic, Mild
	[ Inflammation TGLS = 8-3+3A ]		
* Mammary Gland		Fibroadenoma	Multiple
	[ Fibroadenoma TGLS = 1,5-11+12+13+14 ]		
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Mild
* Ovary		Cyst	Mild
	[ Cyst TGLS = 6-7 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 4-8 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Uterus		Polyp Stromal	
	[ Polyp Stromal TGLS = 7-8 ]		

PRIMARY CAUSE OF DEATH - Mammary Gland Fibroadenoma  
 CONTRIBUTORY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 540

TRT#: 6

SEX: Female

DAY ON TEST: 541

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27583

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Brain			
Note: "Dilatation" noted at trim was secondary to pituitary mass.			
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
[ Hepatodiaphragmatic Nodule TGLS = 2-11 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pancreas		Basophilic Focus	
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 541

TRT#: 6

SEX: Female

DAY ON TEST: 737

DOSE: 30 MG/M3

DISP: Terminal Sacrifice

HISTO: 27584

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Trachea

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-7 ]			
* Adrenal Medulla		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-7 ]			
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
* Clitoral Gland		Adenoma	
* Heart		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Liver	Bile Duct	Hyperplasia	Moderate
		Leukemia Mononuclear	
* Lung	Alveolus	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
[ Inflammation TGLS = 3-3+3A ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-7 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-7 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-7 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-6 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-12 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>ANIMAL ID:</b> 541	<b>TRT#:</b> 6 <b>DOSE:</b> 30 MG/M3	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 737 <b>HISTO:</b> 27584
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**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration Leukemia Mononuclear	Hyaline, Moderate Hyaline, Mild
[ Leukemia Mononuclear TGLS = 5-8 ]			
* Ovary		Cyst Leukemia Mononuclear	Mild
[ Cyst TGLS = 4-7 ]			
[ Leukemia Mononuclear TGLS = 1-12 ]			
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
[ Adenoma TGLS = 2-8 ]			
* Spleen		Fibrosis Leukemia Mononuclear	Mild
[ Fibrosis TGLS = 8-11 ]			
[ Leukemia Mononuclear TGLS = 6-11 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-11 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Urinary Bladder		Leukemia Mononuclear	
* Uterus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-8 ]			

PRIMARY CAUSE OF DEATH -

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 542

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27585

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Trachea	* Urinary Bladder

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Adrenal Cortex		Hyperplasia Leukemia Mononuclear	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Bone Marrow		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-7 ]			
* Clitoral Gland		Inflammation	Chronic Active, Mild
* Heart		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus Leukemia Mononuclear	
* Lung	Alveolus	Inflammation Leukemia Mononuclear	Chronic, Mild
[ Inflammation TGLS = 5,6,8-14+13+3+15+3A ]			
[ Leukemia Mononuclear TGLS = 5,6,8-14+13+3+15+3A ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-17 ]			
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 542	<b>TRT#:</b> 6	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 737
	<b>DOSE:</b> 30 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27585

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Ovary [ Leukemia Mononuclear TGLS = 2-17 ]		Inflammation Leukemia Mononuclear	Suppurative, Mild
* Pituitary Gland [ Adenoma TGLS = 1-8 ] [ Leukemia Mononuclear TGLS = 2-17 ]	Pars Distalis	Adenoma Leukemia Mononuclear	
* Spleen [ Fibrosis TGLS = 7-12 ] [ Leukemia Mononuclear TGLS = 3-11 ]		Fibrosis Leukemia Mononuclear	Mild
* Stomach, Forestomach		Leukemia Mononuclear Necrosis	Mild
* Stomach, Glandular		Leukemia Mononuclear	
* Thymus [ Leukemia Mononuclear TGLS = 7-12 ]		Leukemia Mononuclear	
* Thyroid Gland * Uterus [ Polyp Stromal TGLS = 4-16 ]	C Cell	Adenoma Polyp Stromal	

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 543

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Natural Death

DAY ON TEST: 686

HISTO: 27586

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Small, Duodenum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Thyroid Gland
* Trachea	* Urinary Bladder	* Uterus	

AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Ileum
* Intestine Small, Jejunum			

OBSERVATIONS

Eye [ Cataract TGLS = 3-11 ]		Cataract	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Mild
* Lung	Alveolus	Inflammation	Chronic, Mild
Note: Lungs were "dark red" due to post mortem pooling of blood.			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Parathyroid Gl			
Note: "Enlarged, 6x3mm, clear" parathyroid described at necropsy was within normal limits microscopically.			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 4-8 ]			

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 544

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 737

**DOSE:** 30 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27587

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

**MISSING**

\* Lymph Node, Bronchial

**OBSERVATIONS**

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Angiectasis	Moderate
		Basophilic Focus	
[ Angiectasis TGLS = 2-11 ]			
* Lung	Alveolar Epith	Hyperplasia	Moderate
[ Hyperplasia TGLS = 3-3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 4-12 ]			

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 545

TRT#: 6

SEX: Female

DAY ON TEST: 531

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27588

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
* Lung	Alveolar Epith	Hyperplasia	Minimal
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 546

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 692

HISTO: 27589

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Clitoral Gland	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Larynx
* Mammary Gland	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Glandular	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
* Kidney		Nephropathy	Mild
* Liver		Degeneration	Fatty, Moderate
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-4 ]			
* Lung		Leukemia Mononuclear	
Note: Changes associated with leukemia obscured any exposure-related lesions in the lungs.			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-8 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Ovary		Leukemia Mononuclear	
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
[ Adenoma TGLS = 1-8 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 546	<b>TRT#:</b> 6	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 692
	<b>DOSE:</b> 30 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27589

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen [ Fibrosis TGLS = 4-11 ] [ Leukemia Mononuclear TGLS = 2-11 ]		Fibrosis Leukemia Mononuclear	Moderate
* Stomach, Forestomach [ Necrosis TGLS = 5-8 ]		Necrosis	Marked
* Thymus [ Leukemia Mononuclear TGLS = 2-11 ]		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH - Thymus Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 547

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 653

HISTO: 27590

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Larynx	* Parathyroid Gland	* Trachea

OBSERVATIONS

* Adrenal Cortex		Hyperplasia Leukemia Mononuclear	Mild
[ Leukemia Mononuclear TGLS = 4-7 ]			
* Adrenal Medulla		Hyperplasia Leukemia Mononuclear Leukemia Mononuclear	Mild
* Bone Marrow			
[ Leukemia Mononuclear TGLS = 5-8 ]			
* Brain		Leukemia Mononuclear Oligodendroglioma Benign	
[ Leukemia Mononuclear TGLS = 5-8 ]			
[ Oligodendroglioma Benign TGLS = 5-8 ]			
* Clitoral Gland		Adenoma	
[ Adenoma TGLS = 16-7 ]			
* Heart		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 16-7 ]			
* Kidney	Renal Tubule	Hyperplasia Leukemia Mononuclear	Moderate
[ Leukemia Mononuclear TGLS = 16-7 ]			
* Liver	Bile Duct	Basophilic Focus Hyperplasia Leukemia Mononuclear	Mild
	Centrilobular	Necrosis	Minimal
[ Basophilic Focus TGLS = 11-4 ]			
[ Leukemia Mononuclear TGLS = 11-4 ]			
* Lung		Leukemia Mononuclear	
Lymph Node	Pancreatic	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 547

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 653

HISTO: 27590

ORGAN AND ACCOUNTABLE SITE STATUS

Renal

Leukemia Mononuclear

Leukemia Mononuclear

Note: Lymph node with no site given was axillary.

[ Leukemia Mononuclear TGLS = 13-17 ]

[ Leukemia Mononuclear TGLS = 7-14 ]

[ Leukemia Mononuclear TGLS = 15-20 ]

\* Lymph Node, Bronchial

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 4-7 ]

\* Lymph Node, Mandibular

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 4-7 ]

\* Lymph Node, Mediastinal

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 5-11 ]

\* Lymph Node, Mesenteric

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 12-16 ]

\* Mammary Gland

Fibroadenoma

[ Fibroadenoma TGLS = 14-19 ]

Mesentery

Fat

Necrosis

Mild

[ Necrosis TGLS = 17-18 ]

\* Nose

Olfactory Epi

Degeneration

Hyaline, Moderate

Respirat Epith

Degeneration

Hyaline, Mild

Leukemia Mononuclear

Leukemia Mononuclear

\* Ovary

[ Leukemia Mononuclear TGLS = 17-18 ]

\* Pancreas

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 17-18 ]

\* Pituitary Gland

Pars Distalis

Adenoma

Leukemia Mononuclear

[ Adenoma TGLS = 6-8 ]

[ Leukemia Mononuclear TGLS = 17-18 ]

\* Salivary Glands

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 6-8 ]

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 547	<b>TRT#:</b> 6	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 653
	<b>DOSE:</b> 30 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27590

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Skin [ Inflammation TGLS = 3-15 ]	Inflammation	Chronic Active, Mild
* Spleen [ Fibrosis TGLS = 9,10-12+13 ] [ Leukemia Mononuclear TGLS = 8-12+13 ]	Fibrosis Leukemia Mononuclear	Moderate
* Stomach, Forestomach	Leukemia Mononuclear	
* Stomach, Glandular	Leukemia Mononuclear	
* Thymus [ Leukemia Mononuclear TGLS = 8-12+13 ]	Leukemia Mononuclear	
* Thyroid Gland C Cell	Hyperplasia	Minimal
* Urinary Bladder	Leukemia Mononuclear	
* Uterus	Leukemia Mononuclear	

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**PRIMARY CAUSE OF DEATH** - Thymus Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 548

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27591

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Larynx	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Hypertrophy	Mild
		Vacuolization Cytoplasmic	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 3-3+3A+12 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Spleen			
Note: "Focus, 3mm diameter, dark" was not apparent at trim or microscopically.			
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Marked

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 549

TRT#: 6

SEX: Female

DAY ON TEST: 686

DOSE: 30 MG/M3

DISP: Moribund Sacrifice

HISTO: 27592

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Moderate
		Pheochromocytoma Benign	
* Bone		Fibrous Osteodystrophy	Moderate
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Marked
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Mixed Cell Focus	
	[ Hepatodiaphragmatic Nodule TGLS = 3-11 ]		
* Lung	Alveolus	Inflammation	Chronic, Mild
	[ Inflammation TGLS = 2-3A ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
* Parathyroid Gland		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 1-8 ]		
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 549

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 686

**DOSE:** 30 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27592

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Liver Mixed Cell Focus

CONTRIBUTORY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 550

TRT#: 6

DOSE: 30 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27593

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Leukemia Mononuclear	
		Nephropathy	Moderate
[ Nephropathy TGLS = 7-5 ]			
* Larynx	Epiglottis	Hyperplasia	Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Leukemia Mononuclear	
[ Basophilic Focus TGLS = 7-5 ]			
[ Clear Cell Focus TGLS = 8-4 ]			
[ Leukemia Mononuclear TGLS = 8-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
[ Inflammation TGLS = 5-3+3A ]			
[ Leukemia Mononuclear TGLS = 8-4 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 3-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Ovary		Cyst	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 550	<b>TRT#:</b> 6	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 736
	<b>DOSE:</b> 30 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27593

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Cyst TGLS = 6-7 ]			
* Pancreas		Basophilic Focus	
[ Basophilic Focus TGLS = 6-7 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 4-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-8 ]			
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 701

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 70244

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Minimal
* Bone		Hyperostosis	Marked
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Mild
* Lung	Alveolus	Inflammation	Chronic, Marked
	[ Inflammation TGLS = 1,2-3A+11+3+12 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Polyp Stromal	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 702

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27445

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Clitoral Gland

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
* Lung	Alveolus	Inflammation	Chronic, Moderate
		Melanoma Malignant	Metastatic (Skin)
	[ Inflammation TGLS = 4-3+3A ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 3-11+12 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 1-8 ]		
* Skin	Subcut Tiss	Melanoma Malignant	
	[ Melanoma Malignant TGLS = 2-13 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 703	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 583
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27446

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Ovary		Thrombosis	Minimal
* Pituitary Gland	Pars Distalis	Leukemia Mononuclear	
	[ Adenoma TGLS = 2-8 ]	Adenoma	
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 3-4 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Polyp Stromal	

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PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 704

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 660

HISTO: 27447

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Mammary Gland	* Ovary	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Bronchial	* Thymus
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OBSERVATIONS

* Bone		Hyperostosis	Minimal
* Bone Marrow		Leukemia Mononuclear	
* Heart	Atrium	Thrombosis	Moderate
[ Thrombosis TGLS = 7-4 ]			
* Kidney		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-4 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Degeneration	Fatty, Mild
Hepatodiaphragmatic Nodule			
Leukemia Mononuclear			
Note: Hdn (in slide 3 with lung) was adhered to diaphragm.			
[ Leukemia Mononuclear TGLS = 3-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Moderate
Leukemia Mononuclear			
[ Inflammation TGLS = 6-3+3A+11 ]			
[ Leukemia Mononuclear TGLS = 1-3+3A ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
Mesentery	Fat	Necrosis	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 704

**TRT#:** 8

**DOSE:** 100 MG/M3

**SEX:** Female

**DISP:** Moribund Sacrifice

**DAY ON TEST:** 660

**HISTO:** 27447

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Necrosis TGLS = 5-13 ]			
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration Inflammation Leukemia Mononuclear Basophilic Focus	Hyaline, Moderate Hyaline, Mild Suppurative, Minimal
* Pancreas			
[ Basophilic Focus TGLS = 5-13 ]			
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 4-12 ]			
* Thyroid Gland	C Cell C Cell	Adenoma Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 705

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27448

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                            |                           |                             |                          |
|----------------------------|---------------------------|-----------------------------|--------------------------|
| * Bone                     | * Brain                   | * Esophagus                 | * Intestine Large, Cecum |
| * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum | * Mammary Gland           | * Pancreas                  | * Parathyroid Gland      |
| * Salivary Glands          | * Skin                    | * Stomach, Forestomach      | * Trachea                |
| * Uterus                   |                           |                             |                          |

OBSERVATIONS

- |                                      |            |   |                    |
|--------------------------------------|------------|---|--------------------|
| * Adrenal Cortex                     |            | Leukemia Mononuclear<br>Vacuolization Cytoplasmic | Moderate           |
| * Adrenal Medulla                    |            | Leukemia Mononuclear                              |                    |
| * Bone Marrow                        |            | Leukemia Mononuclear                              |                    |
| [ Leukemia Mononuclear TGLS = 1-11 ] |            |   |                    |
| * Clitoral Gland                     |            | Carcinoma   |                    |
| [ Carcinoma TGLS = 4,5-14+13 ]       |            |   |                    |
| * Heart                              |            | Cardiomyopathy                                    | Mild               |
| * Islets, Pancreatic                 |            | Adenoma   |                    |
| * Kidney                             |            | Leukemia Mononuclear<br>Nephropathy               | Mild               |
| * Larynx                             | Epiglottis | Metaplasia  | Squamous, Moderate |
| * Liver                              |            | Basophilic Focus                                  |                    |
|                                      |            | Degeneration                                      | Fatty, Mild        |
|                                      | Bile Duct  | Hyperplasia                                       | Mild               |
|                                      |            | Leukemia Mononuclear                              |                    |
| [ Basophilic Focus TGLS = 8-4 ]      |            |   |                    |
| [ Leukemia Mononuclear TGLS = 8-4 ]  |            |   |                    |
| * Lung                               | Alveolus   | Inflammation                                      | Chronic, Moderate  |
|                                      |            | Leukemia Mononuclear                              |                    |
| [ Inflammation TGLS = 2-3+3A ]       |            |   |                    |
| * Lymph Node, Bronchial              |            | Leukemia Mononuclear                              |                    |
| * Lymph Node, Mandibular             |            | Leukemia Mononuclear                              |                    |
| * Lymph Node, Mediastinal            |            | Leukemia Mononuclear                              |                    |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 705

**TRT#:** 8

**DOSE:** 100 MG/M3

**SEX:** Female

**DISP:** Terminal Sacrifice

**DAY ON TEST:** 736

**HISTO:** 27448

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Mild
* Ovary		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-3+3A ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 3-8 ]		
* Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 7-12 ]		
* Stomach, Glandular		Mineralization	Minimal
* Thymus		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 7-12 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Urinary Bladder		Leukemia Mononuclear	
* Uterus			

Note: There was no microscopic finding to account for the "focus, 2x1mm, dark" described at necropsy.

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 706

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 569

HISTO: 27449

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Intestine Large, Rectum		Mineralization	Mild
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 1-3+3A ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 707

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 735

HISTO: 27450

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Thyroid Gland	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 5-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
[ Basophilic Focus TGLS = 5-5 ]		Necrosis	Mild
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 4-3+3A ]			
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,3-13+14+11+12 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 7-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
Vagina		Schwannoma Malignant	
[ Schwannoma Malignant TGLS = 6-16 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 707

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 100 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27450

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

---

PRIMARY CAUSE OF DEATH

- Vagina Schwannoma Malignant

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 708

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 534

HISTO: 27451

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Clitoral Gland	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Mammary Gland
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Minimal
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Degeneration	Fatty, Moderate
		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 5-4 ]	
* Lung		Leukemia Mononuclear	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Leukemia Mononuclear	
		Thrombosis	Mild
* Ovary		Cyst	Moderate
		Leukemia Mononuclear	
		[ Cyst TGLS = 2-7 ]	
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 708	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 534
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27451

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Hyperplasia TGLS = 1-8 ] [ Leukemia Mononuclear TGLS = 2-7 ] * Spleen		Leukemia Mononuclear	
[ Fibrosis TGLS = 4-11 ] [ Leukemia Mononuclear TGLS = 3-11 ] * Stomach, Forestomach		Fibrosis Leukemia Mononuclear	Mild
[ Necrosis TGLS = 6-12 ] * Stomach, Glandular		Necrosis	Mild
* Thyroid Gland	C Cell	Necrosis Hyperplasia	Minimal Minimal

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PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 710

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27453

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- \* Adrenal Medulla
- \* Esophagus
- \* Intestine Small, Ileum
- \* Lymph Node, Mandibular
- \* Parathyroid Gland
- \* Stomach, Forestomach
- \* Urinary Bladder

- \* Bone
- \* Intestine Large, Colon
- \* Intestine Small, Jejunum
- \* Lymph Node, Mediastinal
- \* Salivary Glands
- \* Stomach, Glandular
- \* Uterus

- \* Bone Marrow
- \* Intestine Large, Rectum
- \* Islets, Pancreatic
- \* Lymph Node, Mesenteric
- \* Skin
- \* Thymus

- \* Brain
- \* Intestine Small, Duodenum
- \* Lymph Node, Bronchial
- \* Ovary
- \* Spleen
- \* Trachea

OBSERVATIONS

- \* Adrenal Cortex
- \* Clitoral Gland
  - [ Inflammation TGLS = 3-14 ]
- \* Heart
- \* Intestine Large, Cecum
- \* Kidney
  - [ Nephropathy TGLS = 5-5 ]
- \* Larynx
- \* Liver
  - [ Basophilic Focus TGLS = 4-4+13 ]
  - [ Clear Cell Focus TGLS = 4-4+13 ]
  - [ Eosinophilic Focus TGLS = 4-4+13 ]
  - [ Mixed Cell Focus TGLS = 4-4+13 ]
- \* Lung
  - [ Inflammation TGLS = 2-3+3A+11+12 ]
- \* Mammary Gland
  - [ Fibroadenoma TGLS = 7-15 ]
- \* Nose

- Epiglottis
- Alveolus
- Olfactory Epi
- Respirat Epith

- Hyperplasia
- Inflammation
- Cardiomyopathy
- Mineralization
- Nephropathy
- Metaplasia
- Basophilic Focus
- Clear Cell Focus
- Eosinophilic Focus
- Mixed Cell Focus
- Inflammation
- Fibroadenoma
- Degeneration
- Degeneration

- Mild
- Chronic Active, Marked
- Mild
- Minimal
- Moderate
- Squamous, Marked
- Chronic, Moderate
- Multiple
- Hyaline, Moderate
- Hyaline, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

---

**ANIMAL ID:** 710

**TRT#:** 8

**DOSE:** 100 MG/M3

**SEX:** Female

**DISP:** Terminal Sacrifice

**DAY ON TEST:** 737

**HISTO:** 27453

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pancreas		Hyperplasia	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 711

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 688

HISTO: 27454

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder

MISSING

* Clitoral Gland	* Thymus
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OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Minimal
Eye		Degeneration	Moderate
Note: Degeneration includes moderate cataract, marked retinal atrophy, and posterior synechia. [ Degeneration TGLS = 3-11 ]			
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
		Mixed Cell Focus	
[ Mixed Cell Focus TGLS = 6-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Marked
[ Inflammation TGLS = 2-3+3A ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 5-8 ]			
* Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 711	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 688
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27454

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 5-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Polyp Stromal	
[ Polyp Stromal TGLS = 4-8 ]			

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PRIMARY CAUSE OF DEATH	- Spleen	Leukemia Mononuclear
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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 712

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 580

HISTO: 27455

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Clitoral Gland	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Mammary Gland	* Parathyroid Gland	* Salivary Glands	* Skin
* Thymus	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Degeneration	Fatty, Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGSL = 4-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
Note: Exposure-related lesions were somewhat obscured by leukemia.			
		[ Inflammation TGSL = 5-3+3A ]	
		[ Leukemia Mononuclear TGSL = 4-4 ]	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Thrombosis	Mild
* Ovary		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 712	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 580
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27455

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 5-3+3A ]			
* Pancreas		Hyperplasia	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
[ Adenoma TGLS = 6-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-11 ]			
* Stomach, Forestomach		Mineralization	Minimal
		Necrosis	Moderate
[ Necrosis TGLS = 7-12 ]			
* Stomach, Glandular		Mineralization	Minimal
* Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 713

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 555

HISTO: 27456

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Brain	* Clitoral Gland	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Mammary Gland
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
* Adrenal Medulla		Leukemia Mononuclear	
		Pheochromocytoma Benign	
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Minimal
		Leukemia Mononuclear	
* Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Moderate
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
	Centrilobular	Necrosis	Minimal
	[ Basophilic Focus TGLS = 4-4 ]		
	[ Leukemia Mononuclear TGLS = 4-4 ]		
* Lung	Alveolus	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
	Note: Many of the pulmonary changes were secondary to leukemia, which somewhat obscured exposure-related lesions.		
	[ Leukemia Mononuclear TGLS = 1-3+3A ]		
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 713

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 555

HISTO: 27456

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Mild
* Ovary		Leukemia Mononuclear	
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia Leukemia Mononuclear	Mild
* Spleen		Fibrosis Leukemia Mononuclear	Mild
	[ Fibrosis TGLS = 3-11 ]		
	[ Leukemia Mononuclear TGLS = 2-11 ]		
* Thymus		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-11 ]		
* Thyroid Gland	C Cell C Cell	Adenoma Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	- Thymus	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 714

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27457

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Forestomach	* Stomach, Glandular	* Trachea
* Urinary Bladder	* Uterus		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Clitoral Gland		Cyst	Marked
[ Cyst TGLS = 5-7 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
* Lung	Alveolar Epith	Leukemia Mononuclear	
	Alveolus	Hyperplasia	Mild
		Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
[ Inflammation TGLS = 2-3+3A ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 3-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

---

**ANIMAL ID:** 714

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 100 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27457

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Spleen [ Leukemia Mononuclear TGLS = 1-8 ]		Leukemia Mononuclear	
* Thymus [ Leukemia Mononuclear TGLS = 1-8 ]		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Mild

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 715

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27458

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Thymus

OBSERVATIONS

* Adrenal Medulla		Hyperplasia	Minimal
* Bone		Hyperostosis	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
Note: "Nodules" described at trim were normal variation in contours of lobe.			
* Lung	Alveolar Epith	Hyperplasia	Moderate
	Alveolus	Inflammation	Chronic, Moderate
	[ Inflammation TGLS = 3-3+3A ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 1-12+13 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Respirat Epith	Degeneration	Hyaline, Mild
* Ovary		Cyst	Mild
	[ Cyst TGLS = 5-7 ]		
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 2-8 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 715

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 100 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27458

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 716

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27459

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Thymus
* Trachea	* Urinary Bladder		

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
	Bile Duct	Hepatodiaphragmatic Nodule	
		Hyperplasia	Minimal
		Leukemia Mononuclear	
		[ Clear Cell Focus TGLS = 3-4 ]	
		[ Hepatodiaphragmatic Nodule TGLS = 3-4 ]	
* Lung	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
		[ Inflammation TGLS = 1,5-3+3A ]	
* Mammary Gland		Carcinoma	
		Fibroadenoma	
		[ Carcinoma TGLS = 7-12 ]	
		[ Fibroadenoma TGLS = 7-12 ]	
Mesentery	Fat	Necrosis	Moderate
		[ Necrosis TGLS = 4-11 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

---

**ANIMAL ID:** 716

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 735

**DOSE:** 100 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27459

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Pituitary Gland	Respirat Epith	Degeneration	Hyaline, Mild
* Spleen	Pars Distalis	Hyperplasia	Mild
* Stomach, Glandular		Leukemia Mononuclear	
* Thyroid Gland		Mineralization	Minimal
* Uterus	C Cell	Hyperplasia	Mild
		Polyp Stromal	
[ Polyp Stromal TGLS = 2-8 ]			

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 717

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 560

HISTO: 27460

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Leukemia Mononuclear	
* Adrenal Medulla		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Minimal
	Atrium	Thrombosis	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Degeneration	Fatty, Mild
	Bile Duct	Hyperplasia	Minimal
	Centrilobular	Leukemia Mononuclear	
		Necrosis	Minimal
[ Leukemia Mononuclear TGLS = 1-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
[ Inflammation TGLS = 3-3+3A+11+12 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Thrombosis	Marked
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-3+3A+11+12 ]			
* Stomach, Forestomach		Necrosis	Minimal
* Uterus		Polyp Stromal	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 717

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 560

**DOSE:** 100 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27460

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: Polyp was necrotic.

[ Polyp Stromal TGLS = 2-13 ]

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PRIMARY CAUSE OF DEATH - Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH - Uterus Polyp Stromal

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 718

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Natural Death

DAY ON TEST: 720

HISTO: 27461

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

MISSING

\* Lymph Node, Bronchial

AUTO PRECLUDES DIAG.

\* Intestine Small, Jejunum

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
	Bile Duct	Hyperplasia	Minimal
* Lung	Alveolus	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
		Sarcoma	
Note: Sarcoma was attached to pleura at tip of cardiac lobe by thin tag and did not appear to invade parenchyma.			
		[ Inflammation TGLS = 2-3+3A ]	
		[ Sarcoma TGLS = 3-3+11+13 ]	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Mammary Gland		Fibroadenoma	
		[ Fibroadenoma TGLS = 1-14+15+16 ]	
Mesentery	Fat	Necrosis	Mild
		[ Necrosis TGLS = 7-17 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 718

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 720

**DOSE:** 100 MG/M3

**DISP:** Natural Death

**HISTO:** 27461

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Respirat Epith

Degeneration

Hyaline, Mild

\* Ovary

Note: "Mass, 5mm diameter, mottled" was normal corpora lutea.

\* Pituitary Gland

Pars Distalis

Adenoma

\* Spleen

Leukemia Mononuclear

\* Thyroid Gland

Follicular Cel

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

- Lung Sarcoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 719

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 721

HISTO: 27462

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Mammary Gland	* Parathyroid Gland
* Salivary Glands	* Skin	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-7 ]			
* Adrenal Medulla		Leukemia Mononuclear	
* Bone		Hyperostosis	Marked
* Bone Marrow		Leukemia Mononuclear	
* Heart		Cardiomyopathy	Minimal
* Kidney		Leukemia Mononuclear	
		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Degeneration	Fatty, Mild
		Leukemia Mononuclear	
* Lung	Alveolus	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
[ Inflammation TGLS = 2-3+3A ]			
Lymph Node	Pancreatic	Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 7-15 ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-7 ]			
* Lymph Node, Mandibular		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 9-7 ]			
* Lymph Node, Mediastinal		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-11 ]			
* Lymph Node, Mesenteric		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

<b>ANIMAL ID:</b> 719	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 721
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27462

**ORGAN AND ACCOUNTABLE SITE STATUS**

[ Leukemia Mononuclear TGLS = 8-13 ]			
Mesentery	Fat	Leukemia Mononuclear Necrosis	Moderate
[ Leukemia Mononuclear TGLS = 4-14 ]			
[ Necrosis TGLS = 4-14 ]			
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Marked Hyaline, Mild
* Ovary		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-7 ]			
* Pancreas		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-7 ]			
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
[ Adenoma TGLS = 3-8 ]			
[ Leukemia Mononuclear TGLS = 5-7 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-12 ]			
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Minimal
* Thymus		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-12 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
<b>PRIMARY CAUSE OF DEATH</b>	- Thymus	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 720

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Natural Death

DAY ON TEST: 527

HISTO: 27463

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Salivary Glands
* Skin	* Spleen	* Stomach, Glandular	* Thymus
* Thyroid Gland	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Parathyroid Gland

AUTO PRECLUDES DIAG.

* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Small, Ileum	* Intestine Small, Jejunum
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Degeneration	Fatty, Moderate
[ Degeneration TGLS = 3-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 1-3+3A ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
		Inflammation	Suppurative, Minimal
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Stomach, Forestomach		Necrosis	Marked
[ Necrosis TGLS = 4-8 ]			

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 721

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27464

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Mixed Cell Focus	
		Vacuolization Cytoplasmic	Focal, Mild
[ Mixed Cell Focus TGLS = 3-11 ]			
* Lung	Alveolus	Alveolar/Bronchiolar Adenoma	
		Inflammation	Chronic, Marked
[ Alveolar/Bronchiolar Adenoma TGLS = 3-11 ]			
[ Inflammation TGLS = 1-3+3A ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Cyst	Moderate
	Pars Distalis	Hyperplasia	Moderate
* Stomach, Forestomach		Mineralization	Minimal
* Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal
* Uterus		Leiomyoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 721

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 737

**DOSE:** 100 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27464

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**ORGAN AND ACCOUNTABLE SITE STATUS**

Polyp Stromal

[ Leiomyoma TGLS = 2-12 ]

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 722

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27465

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Parathyroid Gland	* Pituitary Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
		Leukemia Mononuclear	
		[ Basophilic Focus TGLS = 3-4 ]	
		[ Leukemia Mononuclear TGLS = 3-4 ]	
* Lung	Alveolus	Inflammation	Chronic, Marked
		Leukemia Mononuclear	
		[ Inflammation TGLS = 2-3+3A ]	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Spleen		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 723

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 100 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27466

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Trachea	* Urinary Bladder
* Uterus			

**MISSING**

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Thymus
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**OBSERVATIONS**

* Heart		Cardiomyopathy	Minimal
* Kidney	Renal Tubule	Hyperplasia	Mild
		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Degeneration	Fatty, Minimal
		Degeneration	Cystic, Minimal
		Hepatodiaphragmatic Nodule	
		Leukemia Mononuclear	
	[ Hepatodiaphragmatic Nodule TGLS = 4-4 ]		
	[ Leukemia Mononuclear TGLS = 4-4 ]		
* Lung	Alveolus	Inflammation	Chronic, Marked
	[ Inflammation TGLS = 2-3+3A ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 3-11 ]		
Mesentery	Fat	Necrosis	Moderate
	[ Necrosis TGLS = 5-12 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 723

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 736

**DOSE:** 100 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27466

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

\* Parathyroid Gland

Hyperplasia

Mild

\* Pituitary Gland

Pars Distalis

Adenoma

[ Adenoma TGLS = 1-8 ]

\* Spleen

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 1-8 ]

\* Thyroid Gland

C Cell

Hyperplasia

Moderate

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 724

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 615

HISTO: 27467

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Heart
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Vacuolization Cytoplasmic	Focal, Mild
	[ Hepatodiaphragmatic Nodule TGLS = 4-4 ]		
* Lung	Alveolus	Inflammation	Chronic, Moderate
	[ Inflammation TGLS = 1,2-3A+3 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 3-8 ]		
* Stomach, Forestomach		Hyperplasia	Squamous, Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 725

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27468

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                            |                           |                             |
|--------------------------|----------------------------|---------------------------|-----------------------------|
| * Bone                   | * Bone Marrow              | * Brain                   | * Esophagus                 |
| * Intestine Large, Cecum | * Intestine Large, Colon   | * Intestine Large, Rectum | * Intestine Small, Duodenum |
| * Intestine Small, Ileum | * Intestine Small, Jejunum | * Islets, Pancreatic      | * Lymph Node, Bronchial     |
| * Lymph Node, Mandibular | * Lymph Node, Mediastinal  | * Lymph Node, Mesenteric  | * Parathyroid Gland         |
| * Salivary Glands        | * Skin                     | * Thymus                  | * Trachea                   |
| * Uterus                 |                            |                           |                             |

OBSERVATIONS

- |  |                |                      |                          |
|--|----------------|----------------------|--------------------------|
| * Adrenal Cortex                       |                | Hyperplasia          | Marked                   |
| * Adrenal Medulla                      |                | Hyperplasia          | Moderate                 |
| * Clitoral Gland                       |                | Inflammation         | Chronic Active, Moderate |
| * Heart                                |                | Cardiomyopathy       | Mild                     |
| * Kidney                               |                | Nephropathy          | Marked                   |
| [ Nephropathy TGLS = 6-5 ]             |                |                      |                          |
| * Larynx                               | Epiglottis     | Metaplasia           | Squamous, Minimal        |
| * Liver                                |                | Angiectasis          | Mild                     |
|  |                | Basophilic Focus     |                          |
|  |                | Eosinophilic Focus   |                          |
|  |                | Leukemia Mononuclear |                          |
|  |                | Mixed Cell Focus     |                          |
| [ Basophilic Focus TGLS = 6-5 ]        |                |                      |                          |
| [ Eosinophilic Focus TGLS = 7-4 ]      |                |                      |                          |
| [ Mixed Cell Focus TGLS = 8-11 ]       |                |                      |                          |
| * Lung                                 | Alveolus       | Inflammation         | Chronic, Moderate        |
| [ Inflammation TGLS = 4-3+3A ]         |                |                      |                          |
| * Mammary Gland                        |                | Fibroadenoma         | Multiple                 |
| [ Fibroadenoma TGLS = 1,2,9-12+13+14 ] |                |                      |                          |
| * Nose                                 | Olfactory Epi  | Degeneration         | Hyaline, Moderate        |
|  | Respirat Epith | Degeneration         | Hyaline, Mild            |
| * Ovary                                |                | Cyst                 | Marked                   |
| [ Cyst TGLS = 5-7 ]                    |                |                      |                          |

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:32

**First Dose M/F:** NA / NA

**Lab:** BNW

**ANIMAL ID:** 725

**TRT#:** 8

**DOSE:** 100 MG/M3

**SEX:** Female

**DISP:** Terminal Sacrifice

**DAY ON TEST:** 736

**HISTO:** 27468

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Pancreas		Atrophy	Marked
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-8 ]			
* Stomach, Forestomach		Mineralization	Mild
* Stomach, Glandular		Mineralization	Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild
* Urinary Bladder	Transit Epithe	Hyperplasia	Marked

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:32  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 726	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 736
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27469

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Papilloma TGLS = 3-8 ]	
* Uterus	Polyp Stromal
[ Polyp Stromal TGLS = 5-8 ]	

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**PRIMARY CAUSE OF DEATH** -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 727

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27470

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Ovary	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

MISSING

\* Lymph Node, Mandibular

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 3-3+3A ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-11+12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Skin	Subcut Tiss	Angiectasis	Marked
[ Angiectasis TGLS = 2-11+12 ]			
* Thyroid Gland	C Cell	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 728

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Natural Death

DAY ON TEST: 619

HISTO: 27471

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	

OBSERVATIONS

* Adrenal Cortex		Necrosis	Moderate
* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
		Degeneration	Fatty, Mild
		Mixed Cell Focus	
* Lung	Alveolar Epith	Hyperplasia	Mild
	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 1-3+3A ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Spleen		Hematopoietic Cell Proliferation	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Sarcoma Stromal	
[ Sarcoma Stromal TGLS = 2-12 ]			

PRIMARY CAUSE OF DEATH

- Uterus Sarcoma Stromal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 729

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27472

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mesenteric	* Ovary
* Pancreas	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

MISSING

\* Lymph Node, Mediastinal

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 4-3+3A ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 3-12 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 2-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 730

TRT#: 8

SEX: Female

DAY ON TEST: 580

DOSE: 100 MG/M3

DISP: Moribund Sacrifice

HISTO: 27473

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Mild
* Bone		Hyperostosis	Mild
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Mixed Cell Focus	
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 4,5-3A+3 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Moderate

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:32

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 731

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27474

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Marked
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 1-3+3A ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Ovary		Cyst	Minimal
[ Cyst TGLS = 3-7 ]			
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 732

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27475

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	* Pituitary Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Adrenal Medulla		Pheochromocytoma Benign	
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 2-3+3A ]			
* Mammary Gland		Fibroadenoma	Multiple
[ Fibroadenoma TGLS = 1,3-13+11+12+7 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 733

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 736

HISTO: 27476

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Minimal
		Vacuolization Cytoplasmic	Mild
* Adrenal Medulla		Hyperplasia	Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Marked
* Liver		Basophilic Focus	
		Eosinophilic Focus	
	Bile Duct	Hyperplasia	Minimal
[ Eosinophilic Focus TGLS = 4-12 ]			
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 3-3+3A ]			
* Mammary Gland		Carcinoma	
[ Carcinoma TGLS = 1-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 734

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27477

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Bone		Hyperostosis	Marked
* Heart		Cardiomyopathy	Mild
* Intestine Large, Cecum		Mineralization	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Clear Cell Focus	
* Lung	Alveolus	Inflammation	Chronic, Moderate
	[ Inflammation TGLS = 2-3+3A+11+12+13 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Ovary		Cyst	Mild
	[ Cyst TGLS = 3-7 ]		
* Pituitary Gland	Pars Distalis	Hyperplasia	Mild
	[ Hyperplasia TGLS = 1-8 ]		
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 735

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 636

HISTO: 27478

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Salivary Glands	* Skin	* Spleen
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

MISSING

* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Parathyroid Gland
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OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
* Lung		Alveolar/Bronchiolar Adenoma	
	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 5-3+3A ]			
* Mammary Gland		Adenoma	
		Carcinoma	
[ Adenoma TGLS = 5-3+3A ]			
[ Carcinoma TGLS = 4-12 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-8 ]			
* Stomach, Forestomach		Hyperplasia	Squamous, Moderate
[ Hyperplasia TGLS = 6-11 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:33  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 735

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 636

**DOSE:** 100 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27478

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 736

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 652

HISTO: 27479

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Vacuolization Cytoplasmic	Mild
* Heart		Cardiomyopathy	Mild
* Intestine Small, Duodenum		Inflammation	Acute, Moderate
* Islets, Pancreatic		Carcinoma	
[ Carcinoma TGLS = 5-11 ]			
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Mixed Cell Focus	
[ Mixed Cell Focus TGLS = 6,7-12+13 ]			
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 3-3+3A ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 4-8 ]			
* Stomach, Forestomach		Necrosis	Moderate
[ Necrosis TGLS = 8-14 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

- UNCERTAIN

CONTRIBUTORY CAUSE OF DEATH

- Islets;Pancreatic Carcinoma;Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 737

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 622

HISTO: 27480

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Adrenal Cortex		Degeneration Hyperplasia Hypertrophy	Cystic, Mild Mild Mild
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 5-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus Vacuolization Cytoplasmic	Focal, Mild
[ Basophilic Focus TGLS = 5-5 ]			
[ Vacuolization Cytoplasmic TGLS = 6,7-4+11 ]			
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 1-3+3A ]			
* Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Hyaline, Moderate Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 4-8 ]			
* Stomach, Forestomach		Necrosis	Marked
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 738

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 581

HISTO: 27481

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon
* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal
* Lymph Node, Mesenteric	* Mammary Gland	* Ovary	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Degeneration	Fatty, Mild
		Hepatodiaphragmatic Nodule	
		Mixed Cell Focus	
		[ Hepatodiaphragmatic Nodule TGLS = 3-11 ]	
		[ Mixed Cell Focus TGLS = 4-12 ]	
* Lung	Alveolus	Inflammation	Chronic, Moderate
		[ Inflammation TGLS = 1-3+3A ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
		[ Adenoma TGLS = 2-8 ]	
* Stomach, Forestomach		Necrosis	Moderate
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH - Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 739

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 727

HISTO: 27482

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Adrenal Medulla		Pheochromocytoma Benign	
* Bone		Hyperostosis	Moderate
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Moderate
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
	Bile Duct	Hyperplasia	Minimal
		Mixed Cell Focus	
	[ Hepatodiaphragmatic Nodule TGLS = 6-11 ]		
	[ Mixed Cell Focus TGLS = 7-4 ]		
* Lung	Alveolus	Inflammation	Chronic, Moderate
	Mediastinum	Thrombosis	Moderate
	[ Inflammation TGLS = 3-3+3A ]		
* Mammary Gland		Fibroadenoma	
	[ Fibroadenoma TGLS = 5-12 ]		
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Minimal
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:33  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 739	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 727
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27482

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 4-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	- Pituitary Gland Pars Distalis Adenoma		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 740

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 698

HISTO: 27483

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone Marrow	* Brain	* Clitoral Gland
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Mammary Gland	* Ovary	* Parathyroid Gland	* Salivary Glands
* Skin	* Spleen	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
* Bone		Hyperostosis	Moderate
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver		Basophilic Focus	
		Degeneration	Fatty, Minimal
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 2-3+3A+11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 741

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27484

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Clitoral Gland	* Esophagus	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Bronchial	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Thymus	* Trachea	* Urinary Bladder
* Uterus			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Moderate
* Heart		Cardiomyopathy	Minimal
	Artery	Thrombosis	Mild
* Intestine Large, Cecum		Mineralization	Mild
* Kidney		Nephropathy	Marked
[ Nephropathy TGLS = 3-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Clear Cell Focus	
[ Basophilic Focus TGLS = 3-5 ]			
[ Clear Cell Focus TGLS = 3-5 ]			
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 2-3+3A ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 4-11 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
* Stomach, Forestomach		Mineralization	Minimal
* Stomach, Glandular		Mineralization	Mild
* Thyroid Gland	C Cell	Carcinoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:33  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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**ANIMAL ID:** 741

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 737

**DOSE:** 100 MG/M3

**DISP:** Terminal Sacrifice

**HISTO:** 27484

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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C Cell

Hyperplasia

Mild

[ Carcinoma TGLS = 1-2 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 742

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27485

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Bone Marrow	* Brain	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mesenteric	* Mammary Gland	* Pancreas	* Parathyroid Gland
* Salivary Glands	* Skin	* Spleen	* Stomach, Forestomach
* Stomach, Glandular	* Thymus	* Trachea	* Urinary Bladder

MISSING

* Lymph Node, Mandibular	* Lymph Node, Mediastinal
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OBSERVATIONS

* Adrenal Cortex		Hypertrophy	Moderate
* Adrenal Medulla		Hyperplasia	Minimal
* Clitoral Gland		Carcinoma	
[ Carcinoma TGLS = 3-12 ]			
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
[ Eosinophilic Focus TGLS = 8-4 ]		Eosinophilic Focus	
* Lung	Alveolar Epith	Hyperplasia	Minimal
	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 2-3+3A ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Respirat Epith	Degeneration	Hyaline, Mild
* Ovary		Cyst	Moderate
[ Cyst TGLS = 4-7 ]			
* Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
[ Hyperplasia TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal
* Uterus		Polyp Stromal	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:33  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 742	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 737
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27485

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Polyp Stromal TGLS = 5-11 ]

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 743

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 637

HISTO: 27486

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Rectum	* Intestine Small, Ileum	* Intestine Small, Jejunum
* Islets, Pancreatic	* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric
* Ovary	* Parathyroid Gland	* Salivary Glands	* Skin
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder			

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Clitoral Gland		Adenoma	
* Heart		Cardiomyopathy	Minimal
* Intestine Large, Cecum		Leukemia Mononuclear	
* Intestine Large, Colon		Leukemia Mononuclear	
* Intestine Small, Duodenum		Leukemia Mononuclear	
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 5-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
Note: Exposure-related lesions were somewhat obscured by leukemia.			
		[ Inflammation TGLS = 1-3+3A ]	
		[ Leukemia Mononuclear TGLS = 5-4 ]	
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Mammary Gland		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 3,6-7+11+12 ]	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 743

TRT#: 8

SEX: Female

DAY ON TEST: 637

DOSE: 100 MG/M3

DISP: Moribund Sacrifice

HISTO: 27486

ORGAN AND ACCOUNTABLE SITE STATUS

[ Leukemia Mononuclear TGLS = 3,6-7+11+12 ]

\* Pituitary Gland

Pars Distalis

Adenoma

[ Adenoma TGLS = 2-8 ]

Skeletal Muscle

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 6-12 ]

\* Spleen

Hematopoietic Cell Proliferation

Moderate

Leukemia Mononuclear

\* Thyroid Gland

C Cell

Hyperplasia

Mild

\* Uterus

Leukemia Mononuclear

Sarcoma Stromal

[ Leukemia Mononuclear TGLS = 4-8 ]

[ Sarcoma Stromal TGLS = 4-8 ]

PRIMARY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

CONTRIBUTORY CAUSE OF DEATH

- Uterus Leukemia Mononuclear;Uterus Sarcoma Stromal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:33  
**First Dose M/F:** NA / NA  
**Lab:** BNW

**ANIMAL ID:** 744

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 618

**DOSE:** 100 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27487

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial	* Lymph Node, Mandibular
* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary	* Parathyroid Gland
* Salivary Glands	* Skin	* Stomach, Forestomach	* Stomach, Glandular
* Thymus	* Trachea	* Urinary Bladder	* Uterus

**OBSERVATIONS**

* Clitoral GI			
Note: "Mass" was dilated duct filled with normal secretion.			
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Minimal
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Leukemia Mononuclear	
* Lung	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 1-3+3A ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 2-11+12+13 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
* Spleen		Leukemia Mononuclear	
* Thyroid Gland	C Cell	Hyperplasia	Mild

**PRIMARY CAUSE OF DEATH** - Mammary Gland Fibroadenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 745

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 737

HISTO: 27488

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone Marrow	* Brain	* Clitoral Gland	* Esophagus
* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum
* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Bronchial
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Mammary Gland
* Ovary	* Parathyroid Gland	* Salivary Glands	* Skin
* Spleen	* Stomach, Forestomach	* Stomach, Glandular	* Thymus
* Trachea	* Urinary Bladder	* Uterus	

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Minimal
* Adrenal Medulla		Hyperplasia	Mild
* Bone		Hyperostosis	Moderate
* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Mixed Cell Focus	
* Lung	Alveolar Epith	Hyperplasia	Moderate
	Alveolus	Inflammation	Chronic, Moderate
[ Inflammation TGLS = 2-3+3A ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Minimal
* Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-8 ]			
* Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05158-03

**Test Type:** CHRONIC

**Route:** RESPIRATORY EXPOSURE WHOLE BODY

**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Molybdenum trioxide

**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014

**Time Report Requested:** 00:52:33

**First Dose M/F:** NA / NA

**Lab:** BNW

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**ANIMAL ID:** 746

**TRT#:** 8

**SEX:** Female

**DAY ON TEST:** 667

**DOSE:** 100 MG/M3

**DISP:** Moribund Sacrifice

**HISTO:** 27489

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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CONTRIBUTORY CAUSE OF DEATH

- Spleen Leukemia Mononuclear

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 747

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 538

HISTO: 27490

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Cortex	* Adrenal Medulla	* Bone	* Bone Marrow
* Brain	* Clitoral Gland	* Esophagus	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Lymph Node, Mediastinal	* Mammary Gland
* Ovary	* Pancreas	* Parathyroid Gland	* Salivary Glands
* Skin	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

\* Lymph Node, Bronchial

OBSERVATIONS

* Heart		Cardiomyopathy	Minimal
* Kidney		Nephropathy	Mild
* Larynx	Epiglottis	Metaplasia	Squamous, Mild
* Liver		Angiectasis	Minimal
		Degeneration	Fatty, Minimal
		Leukemia Mononuclear	
		Mixed Cell Focus	
* Lung	Alveolus	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
		[ Inflammation TGLS = 2-3+3A ]	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pituitary Gland	Pars Distalis	Adenoma	
		Leukemia Mononuclear	
		[ Adenoma TGLS = 1-8 ]	
		[ Leukemia Mononuclear TGLS = 2-3+3A ]	
* Spleen		Leukemia Mononuclear	
		[ Leukemia Mononuclear TGLS = 1-8 ]	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:33  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 747	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 538
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Moribund Sacrifice	<b>HISTO:</b> 27490

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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* Stomach, Forestomach		Necrosis	Mild
* Thyroid Gland	C Cell	Hyperplasia	Minimal
<b>PRIMARY CAUSE OF DEATH</b>	- Spleen Leukemia Mononuclear		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 748

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Natural Death

DAY ON TEST: 673

HISTO: 27491

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

- |                          |                         |                          |                           |
|--------------------------|-------------------------|--------------------------|---------------------------|
| * Adrenal Cortex         | * Adrenal Medulla       | * Bone                   | * Bone Marrow             |
| * Brain                  | * Clitoral Gland        | * Esophagus              | * Intestine Large, Rectum |
| * Islets, Pancreatic     | * Lymph Node, Bronchial | * Lymph Node, Mandibular | * Lymph Node, Mediastinal |
| * Lymph Node, Mesenteric | * Mammary Gland         | * Ovary                  | * Parathyroid Gland       |
| * Salivary Glands        | * Skin                  | * Spleen                 | * Stomach, Forestomach    |
| * Stomach, Glandular     | * Thymus                | * Thyroid Gland          | * Trachea                 |
| * Urinary Bladder        | * Uterus                |                          |                           |

AUTO PRECLUDES DIAG.

- |                            |                          |                             |                          |
|----------------------------|--------------------------|-----------------------------|--------------------------|
| * Intestine Large, Cecum   | * Intestine Large, Colon | * Intestine Small, Duodenum | * Intestine Small, Ileum |
| * Intestine Small, Jejunum |                          |                             |                          |

OBSERVATIONS

- |  |                |                  |                    |
|--|----------------|------------------|--------------------|
| * Heart  |                | Cardiomyopathy   | Minimal            |
| * Kidney   |                | Nephropathy      | Moderate           |
| * Larynx   | Epiglottis     | Metaplasia       | Squamous, Moderate |
| * Liver  |                | Basophilic Focus |                    |
| * Lung   | Alveolus       | Inflammation     | Chronic, Moderate  |
| Note: Lung was "mottled dark" due to post mortem pooling of blood. |                |                  |                    |
| [ Inflammation TGLS = 3-3+3A+11 ]                                  |                |                  |                    |
| * Nose   | Olfactory Epi  | Degeneration     | Hyaline, Moderate  |
|  | Respirat Epith | Degeneration     | Hyaline, Mild      |
| * Pancreas   |                | Atrophy          | Minimal            |
| * Pituitary Gland  | Pars Distalis  | Adenoma          |                    |
| [ Adenoma TGLS = 1-8 ]   |                |                  |                    |

PRIMARY CAUSE OF DEATH

- Pituitary Gland Pars Distalis Adenoma

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 749

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 735

HISTO: 27492

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Adrenal Medulla	* Bone	* Bone Marrow	* Brain
* Esophagus	* Intestine Large, Cecum	* Intestine Large, Colon	* Intestine Large, Rectum
* Intestine Small, Duodenum	* Intestine Small, Ileum	* Intestine Small, Jejunum	* Islets, Pancreatic
* Lymph Node, Mandibular	* Lymph Node, Mediastinal	* Lymph Node, Mesenteric	* Ovary
* Parathyroid Gland	* Salivary Glands	* Skin	* Spleen
* Stomach, Forestomach	* Stomach, Glandular	* Thymus	* Trachea
* Urinary Bladder	* Uterus		

MISSING

* Clitoral Gland	* Lymph Node, Bronchial
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OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Vacuolization Cytoplasmic	Marked
* Heart		Cardiomyopathy	Mild
* Kidney		Nephropathy	Moderate
[ Nephropathy TGLS = 6-5 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Moderate
* Liver		Basophilic Focus	
		Hepatodiaphragmatic Nodule	
[ Basophilic Focus TGLS = 6-5 ]			
[ Hepatodiaphragmatic Nodule TGLS = 5-12 ]			
* Lung	Alveolus	Inflammation	Chronic, Mild
[ Inflammation TGLS = 7-3+3A+11 ]			
* Mammary Gland		Fibroadenoma	
[ Fibroadenoma TGLS = 1-13+14+7 ]			
Mesentery	Fat	Necrosis	Mild
[ Necrosis TGLS = 4-15 ]			
* Nose	Olfactory Epi	Degeneration	Hyaline, Moderate
	Respirat Epith	Degeneration	Hyaline, Mild
* Pancreas		Atrophy	Mild
* Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05158-03  
**Test Type:** CHRONIC  
**Route:** RESPIRATORY EXPOSURE WHOLE BODY  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Molybdenum trioxide  
**CAS Number:** 1313-27-5

**Date Report Requested:** 10/19/2014  
**Time Report Requested:** 00:52:33  
**First Dose M/F:** NA / NA  
**Lab:** BNW

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<b>ANIMAL ID:</b> 749	<b>TRT#:</b> 8	<b>SEX:</b> Female	<b>DAY ON TEST:</b> 735
	<b>DOSE:</b> 100 MG/M3	<b>DISP:</b> Terminal Sacrifice	<b>HISTO:</b> 27492

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 3-8 ]		
* Thyroid Gland	C Cell	Carcinoma
[ Carcinoma TGLS = 2-2 ]		

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**PRIMARY CAUSE OF DEATH** -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 750

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 646

HISTO: 27493

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

* Bone	* Esophagus	* Heart	* Intestine Large, Cecum
* Intestine Large, Colon	* Intestine Large, Rectum	* Intestine Small, Duodenum	* Intestine Small, Ileum
* Intestine Small, Jejunum	* Islets, Pancreatic	* Mammary Gland	* Pancreas
* Parathyroid Gland	* Salivary Glands	* Skin	* Stomach, Forestomach
* Stomach, Glandular	* Trachea	* Urinary Bladder	* Uterus

OBSERVATIONS

* Adrenal Cortex		Hyperplasia	Mild
		Leukemia Mononuclear	
* Adrenal Medulla		Leukemia Mononuclear	
* Bone Marrow		Leukemia Mononuclear	
* Brain		Leukemia Mononuclear	
* Clitoral Gland		Inflammation	Chronic Active, Mild
Eye		Degeneration	Moderate
Note: Degeneration included moderate cataract, marked retinal atrophy, and posterior synechia.			
[ Degeneration TGLS = 3-11 ]			
* Kidney		Leukemia Mononuclear	
		Nephropathy	Minimal
[ Leukemia Mononuclear TGLS = 3-11 ]			
* Larynx	Epiglottis	Metaplasia	Squamous, Minimal
* Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 6-4 ]			
* Lung	Alveolus	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
[ Inflammation TGLS = 5-3+3A ]			
* Lymph Node, Bronchial		Leukemia Mononuclear	
* Lymph Node, Mandibular		Leukemia Mononuclear	
* Lymph Node, Mediastinal		Leukemia Mononuclear	
* Lymph Node, Mesenteric		Leukemia Mononuclear	
* Nose	Olfactory Epi	Degeneration	Hyaline, Marked

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05158-03

Test Type: CHRONIC

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Molybdenum trioxide

CAS Number: 1313-27-5

Date Report Requested: 10/19/2014

Time Report Requested: 00:52:33

First Dose M/F: NA / NA

Lab: BNW

ANIMAL ID: 750

TRT#: 8

DOSE: 100 MG/M3

SEX: Female

DISP: Moribund Sacrifice

DAY ON TEST: 646

HISTO: 27493

**ORGAN AND ACCOUNTABLE SITE STATUS**

* Ovary	Respirat Epith	Degeneration Cyst Leukemia Mononuclear	Hyaline, Mild Moderate
	[ Cyst TGLS = 7-7 ] [ Leukemia Mononuclear TGLS = 5-3+3A ]		
* Pituitary Gland	Pars Distalis	Adenoma Leukemia Mononuclear	
	[ Adenoma TGLS = 4-8 ] [ Leukemia Mononuclear TGLS = 7-7 ]		
* Spleen		Hemorrhage Leukemia Mononuclear	Mild
	[ Hemorrhage TGLS = 2-12 ] [ Leukemia Mononuclear TGLS = 1-12 ]		
* Thymus		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 1-12 ]		
* Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	- Thymus	Leukemia Mononuclear	

**\*\* END OF REPORT \*\***

\* PROTOCOL REQUIRED TISSUE