

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

**C Number:**

C07272B

**Lock Date:**

Not Entered.

**Cage Range:**

All

**Date Range:**

All

**Reasons For Removal:**

All

**Removal Date Range:**

All

**Treatment Groups:**

All

**Study Gender:**

Both

**PWG Approval Date**

04/21/1988

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16561

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16561

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Salivary Glands
Skin	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Adrenal Gland - Medulla

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 5-12			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Congestion	Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic Active, Minimal
	Arteriole	Mineralization	Mild
Note: CONGESTION TGLs = 4-15			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Mild
	Nasolacrim Dct	Inflammation	Mild
Pancreas	Acinus	Atrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16561

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16561

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland Note: HYPERPLASIA TGLs = 6-1	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Chronic Active, Mild
Spleen  Note: HEMA CELL PROL TGLs = 1-12		Hematopoietic Cell Proliferation Pigmentation	Mild Mild
Stomach  Note: INFLAMMATION TGLs = 7-15.1 Note: HYPERPLASIA TGLs = 7-15.1	Forestomach Forestomach	Hyperplasia Inflammation	Squamous, Mild Chronic Active, Mild
Testes  Note: ATROPHY TGLs = 3-5.1 Note: ADENOMA TGLs = 2-5.1	Bilateral, Interstit Cell  Interstit Cell	Adenoma Atrophy Hyperplasia	Mild Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16562

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16562

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 3-12		
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 2-11		
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
		Pigmentation	Cholesterol, Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
Nose	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

**ANIMAL ID:** 16562

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16562

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland Note: [ HYPERPLASIA ] TGLs = 4-1	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Atrophy	Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Testes Note: ADENOMA TGLs = 1-5.1	Bilateral, Interstit Cell Interstit Cell	Adenoma Hyperplasia	Mild
Thyroid Gland	Follicle C Cell	Ectasia Hyperplasia	Mild Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16563

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16563

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Parathyroid Gland	Prostate
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Hypertrophy	Minimal
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
	Bronchiole	Mineralization	Minimal
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16563

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16563

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Preputial Gland		Inflammation	Chronic Active, Moderate
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild

Note: ADENOMA TGLs = 1-5.1,2-5.1

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16564

TRT#: 1

SEX: Male

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16564

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood	Blood Vessel	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	Parathyroid Gland
Prostate	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Minimal
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
Lung	Portal	Inflammation	Chronic, Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Minimal
Note: INFILTRAT CELL TGLs = 4-4			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
		Fibroadenoma	
		Degeneration	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
	Nasolacrim Dct	Inflammation	Acute, Minimal
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16564

TRT#: 1

SEX: Male

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16564

ORGAN AND ACCOUNTABLE SITE STATUS

Pituitary Gland

Pars Intermed

Cyst

Mild

Pars Distalis

Hyperplasia

Note: CYST TGLs = 5-1

Note: HYPERPLASIA TGLs = 5-1

Preputial Gland

Abscess

Moderate

Note: ABSCESS TGLs = 3-5.2

Spleen

Hematopoietic Cell Proliferation

Moderate

Pigmentation

Moderate

Stomach

Glandular, Mucosa

Ectasia

Mild

Testes

Bilateral, Interstit Cell

Adenoma

Hyperplasia

Moderate

Note: ADENOMA TGLs = 2-5.1

Thyroid Gland

C Cell

Adenoma

Hyperplasia

Mild

C Cell

[ Adenoma TGLS = 1-2 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16565

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16565

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thyroid Gland	Trachea	Urinary Bladder

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Vomeronas Org	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
Note: [ HYPERPLASIA ] TGLs = 2-1			
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Chronic Active, Mild
Spleen		Hematopoietic Cell Proliferation	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16565

**TRT#:** 1

**DOSE:** 0 PPM

**SEX:** Male

**DISP:** Terminal Sacrifice

**DAY ON TEST:** 730

**HISTO:** 16565

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Testes

Interstit Cell

Interstit Cell

[ Adenoma TGLS = 1-5.1 ]

Pigmentation

Adenoma

Hyperplasia

Mild

Mild

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16566

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16566

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Pancreas	Parathyroid Gland
Prostate	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 3-12		
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Mild
	Arteriole	Mineralization	Mild
Note: INFLAMMATION	TGLs = 1-4		
Note: INFILTRAT CELL	TGLs = 1-4		
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Nose	Olfactory Epi	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Preputial Gland		Inflammation	Chronic, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16566

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16566

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen

Hematopoietic Cell Proliferation

Mild

Pigmentation

Mild

Testes

Bilateral, Interstit Cell

Adenoma

Interstit Cell

Hyperplasia

Mild

Note: ADENOMA TGLs = 2-5.1

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16567

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16567

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood	Blood Vessel	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	Pancreas
Parathyroid Gland	Preputial Gland	Prostate	Salivary Glands
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic Active, Minimal
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Minimal
Nose	Olfactory Epi	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 3-1 ]			
Skin	Epidermis	Cyst	Moderate
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16567

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16567

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Glandular, Mucosa	Ectasia	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
Note: ADENOMA	TGLs = 1-5.1		
Note: ADENOMA	TGLs = 2-5.1		

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16568

TRT#: 1

SEX: Male

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16568

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Note: [ HEPATOCLR ADEN ] TGLs = 1-11+15			
Lung	Alveolar Epith	Hyperplasia	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Note: HYPERPLASIA TGLs = 2-4			
Lymph Node	Mandibular	Congestion	Moderate
	Mediastinal	Congestion	Mild
	Mesenteric	Congestion	Minimal
	Mandibular	Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N.--LIVER--NORMAL			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:51  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16568	<b>TRT#:</b> 1 <b>DOSE:</b> 0 PPM	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 733 <b>HISTO:</b> 16568
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland	Pars Intermed	Cyst	
Preputial Gland		Abscess	Moderate
		Inflammation	Chronic, Mild
Prostate		Inflammation	Chronic Active, Minimal
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
		Atrophy	Mild
	Interstit Cell	Hyperplasia	Mild

Note: ATROPHY      TGLs = 4-5.1  
Note: ADENOMA      TGLs = 3-5.1

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16569

TRT#: 1

SEX: Male

DAY ON TEST: 645

DOSE: 0 PPM

DISP: Moribund

HISTO: 16569

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	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
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Lymph Node - Mandibular	Pituitary Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hypertrophy	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow		Leukemia Mononuclear	
Brain		Hemorrhage	Moderate
		Leukemia Mononuclear	
Heart	Note: LEUKEMIA MONUC TGLs = 7-10		
	Note: HEMORRHAGE TGLs = 7-10		
Kidney		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
		Leukemia Mononuclear	
	Renal Tubule	Nephropathy Pigmentation	Chronic, Mild Mild
Liver	Note: LEUKEMIA MONUC TGLs = 3-12		
	Bile Duct	Hyperplasia Leukemia Mononuclear	Mild
Lung	Note: LEUKEMIA--CAUSE OF DEATH		
	Note: LEUKEMIA MONUC TGLs = 2-11		
	Arteriole	Infiltration Cellular Leukemia Mononuclear Mineralization	Lymphocyte, Mild Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16569

TRT#: 1

SEX: Male

DAY ON TEST: 645

DOSE: 0 PPM

DISP: Moribund

HISTO: 16569

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 8-1		
Note: LEUKEMIA MONUC	TGLs = 6-15		
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Lumen	Hemorrhage	Mild
	Nasopharyn Dct	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
[ Hematopoietic Cell Proliferation TGLS = 1-12 ]			
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Inflammation	Acute, Mild
	Forestomach	Leukemia Mononuclear	
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 5-5.1		
Thymus		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16570

TRT#: 1

SEX: Male

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16570

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Islets, Pancreatic	Mammary Gland
Pancreas	Parathyroid Gland	Pituitary Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Minimal
Bone Marrow		Myelofibrosis	Moderate
Eye		Cataract	Marked
	Retina	Degeneration	Marked
Note: CATARACT	TGLs = 3-15		
Note: DEGEN	TGLs = 3-15		
Heart		Cardiomyopathy	Chronic, Moderate
Intestine Small	Jejunum	Adenocarcinoma	Mucinous
Note: ADENOCARC	TGLs = 4-15.1		
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Note: INFILTRAT CELL	TGLs = 2-4		
Lymph Node	Mandibular	Congestion	Moderate
Note: MESENTERIC L.N. NORMAL			
Nose	Olfactory Epi	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16570

TRT#: 1

SEX: Male

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16570

ORGAN AND ACCOUNTABLE SITE STATUS

	Respirat Epith	Degeneration	Moderate
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Mild
Preputial Gland		Inflammation	Chronic, Minimal
Prostate		Inflammation	Chronic Active, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 1-5.1		
Thyroid Gland	C Cell	Adenoma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16571

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16571

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Jejunum
Islets, Pancreatic	Mammary Gland	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Intestine Small	Ileum	Lymphoma Malignant Lymphocytic	
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
Lung	Portal	Inflammation	Chronic, Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Arteriole	Mineralization	Mild
	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
Nose	Mesenteric	Lymphoma Malignant Lymphocytic	
	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
Pancreas	Lumen	Hemorrhage	Moderate
	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
Note: [ HYPERPLASIA ] TGLs = 3-1			
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16571

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16571

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 1-5.1,2-5.1		
Thyroid Gland	C Cell	Hyperplasia	Moderate

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16572

TRT#: 1

SEX: Male

DAY ON TEST: 701

DOSE: 0 PPM

DISP: Moribund

HISTO: 16572

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Parathyroid Gland	Salivary Glands	Skin
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Bone	Cranium	Fibrous Osteodystrophy	Moderate
	Femur	Fibrous Osteodystrophy	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY--CAUSE OF DEATH [ Nephropathy TGLS = 1-12 ]			
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Minimal
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Minimal
	Lumen	Hemorrhage	Marked
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Note: [ HYPERPLASIA ] TGLs = 5-1			

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16572

TRT#: 1

SEX: Male

DAY ON TEST: 701

DOSE: 0 PPM

DISP: Moribund

HISTO: 16572

ORGAN AND ACCOUNTABLE SITE STATUS

Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Chronic Active, Moderate
Spleen		Fibrosis	Moderate
		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Inflammation	Chronic Active, Moderate
	Forestomach	Ulcer	Marked
	Glandular, Mucosa	Ulcer	Marked
Note: ULCER	TGLs = 4-15.1		
Note: ULCER	TGLs = 3-15		
Note: GLANDULAR ULCER IN RE CUT BLOCK 15			
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 2-5.1		
Thyroid Gland	Follicle	Ectasia	Moderate
	C Cell	Hyperplasia	Minimal
		Ultimobranchial Cyst	
Zymbal's Gland		Carcinoma	
Note: CARCINOMA	TGLs = 6-15		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16573

TRT#: 1

SEX: Male

DAY ON TEST: 338

DOSE: 0 PPM

DISP: Dead

HISTO: 16573

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood	Blood Vessel	Bone
Bone Marrow	Brain	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Mammary Gland	Nose
Pancreas	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thyroid Gland	Trachea	Urinary Bladder

MISSING

Intestine Large - Rectum	Lymph Node - Mandibular	Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Infiltration Cellular	Lymphocyte, Mild
	Renal Tubule	Pigmentation	Minimal
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Necrosis	Moderate
[ Hyperplasia TGLS = 3-11 ]			
Lung		Infiltration Cellular	Lymphocyte, Minimal
Lymph Node			
Note: MESENTERIC L.N. NORMAL			
Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Abscess	Marked
[ Abscess TGLS = 1-15 ]			
Prostate		Inflammation	Acute, Moderate
Spleen		Hematopoietic Cell Proliferation	Moderate
Testes		Atrophy	Moderate
Note: ATROPHY TGLs = 4-5.1			
Thymus		Congestion	Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16573

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 338

**DOSE:** 0 PPM

**DISP:** Dead

**HISTO:** 16573

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Animal Note: CAUSE OF DEATH UNKNOWN

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16574

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16574

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Prostate
Salivary Glands	Stomach - Forestomach	Stomach - Glandular	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Minimal
Liver		Developmental Malformation	
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Note: DEVELOP MALFOR TGLs = 2-15.1			
Note: DEVELOP MALFOR IN RECUT BLOCK 15.1			
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Cyst	
		Edema	Mild
Note: EDEMA IN REGIONAL L.N.			
Note: MESENTERIC L.N. NORMAL			
Nose	Olfactory Epi	Degeneration	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

**ANIMAL ID:** 16574

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16574

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Pars Distalis	Adenoma	
Preputial Gland		Inflammation	Chronic Active, Mild
Skin		Cyst Epithelial Inclusion	
Note: CYST EPITH INC TGLs = 1-15			
Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
Note: ADENOMA TGLs = 3-5.1			
Thymus		Cyst	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16575

TRT#: 1

SEX: Male

DAY ON TEST: 589

DOSE: 0 PPM

DISP: Moribund

HISTO: 16575

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Testes	Thymus	Trachea
Urinary Bladder			

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Brain		Necrosis	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY--PROBABLE CAUSE OF DEATH [ Nephropathy TGLS = 1-12 ]			
Liver		Angiectasis	Mild
		Fatty Change	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Marked
Nose	Lumen	Hemorrhage	Mild
	Nasolacrim Dct	Inflammation	Acute, Moderate
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 4-1			
Preputial Gland		Inflammation	Acute, Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16575

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 589

**DOSE:** 0 PPM

**DISP:** Moribund

**HISTO:** 16575

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Prostate		Inflammation	Acute, Marked
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Moderate
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Ulcer	Marked
Note: ULCER	TGLs = 3-15		
Thyroid Gland	C Cell	Adenoma	

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16576

TRT#: 1

SEX: Male

DAY ON TEST: 652

DOSE: 0 PPM

DISP: Dead

HISTO: 16576

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Preputial Gland	Prostate	Salivary Glands	Skin
Stomach - Forestomach	Testes	Thyroid Gland	Trachea
Urinary Bladder			

MISSING

Intestine Small - Ileum	Lymph Node - Mandibular	Thymus
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OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Brain		Hemorrhage	Moderate
Heart		Cardiomyopathy	Chronic, Moderate
Intestine Large	Colon	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Note: HEPATOCLR ADEN TGLs = 1-15			
Lung		Congestion	Moderate
		Hemorrhage	Moderate
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Note: CONGESTION TGLs = 2-4			
Note: HEMORRHAGE TGLs = 2-4			
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Mucosa	Inflammation	Acute, Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16576

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 652

**DOSE:** 0 PPM

**DISP:** Dead

**HISTO:** 16576

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 3-1		
Spleen		Pigmentation	Mild
Stomach	Glandular, Mucosa	Erosion	Mild
Note: EROSION	TGLs = 4-6		

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**PRIMARY CAUSE OF DEATH**

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Animal Note: CAUSE OF DEATH UNKNOWN

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16577

TRT#: 1

SEX: Male

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16577

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Parathyroid Gland	Prostate
Salivary Glands	Skin	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Minimal
Note: NEPHROPATHY	TGLs = 2-12		
Liver		Angiectasis	Minimal
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Lumen	Hemorrhage	Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

---

**ANIMAL ID:** 16577

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 733

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16577

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Forestomach	Hyperplasia	Squamous, Mild
Testes	Bilateral, Interstit Cell	Adenoma	
Note: ADENOMA	TGLs = 1-5.1		

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16578

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16578

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Hyperplasia	Mild
Spleen		Hematopoietic Cell Proliferation	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16578

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16578

**ORGAN AND ACCOUNTABLE SITE STATUS**

Stomach	Glandular, Mucosa	Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Dilatation	Mild
	Interstit Cell	Adenoma	
Note: ADENOMA TGLs = 1-5.1		Hyperplasia	Mild
Thyroid Gland	C Cell	Adenoma	
Note: ADENOMA TGLs = 2-2		Infiltration Cellular	Lymphocyte, Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16579

TRT#: 1

SEX: Male

DAY ON TEST: 625

DOSE: 0 PPM

DISP: Moribund

HISTO: 16579

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Parathyroid Gland	Preputial Gland	Prostate	Salivary Glands
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Brain		Hemorrhage	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 1-12			
Note: NEPHROPATHY--CAUSE OF DEATH			
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Erosion	Mild
	Lumen	Hemorrhage	Marked

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16579

TRT#: 1

SEX: Male

DAY ON TEST: 625

DOSE: 0 PPM

DISP: Moribund

HISTO: 16579

ORGAN AND ACCOUNTABLE SITE STATUS

	Mucosa	Inflammation	Acute, Mild
	Nasolacrim Dct	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Hemorrhage	Marked
Note: HEMORRHAGE	TGLs = 5-1		
Skin	Subcut Tiss	Fibroma	
Note: FIBROMA	TGLs = 4-15.1		
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Ulcer	Mild
Note: ULCER	TGLs = 3-15		
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 2-5.1		
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16580

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16580

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
Lung		Hemorrhage	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic Active, Minimal
	Arteriole	Mineralization	Mild
Note: INFILTRAT CELL TGLs = 4-4			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Minimal
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
Pancreas	Acinus	Atrophy	Minimal
Parathyroid Gland		Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 5-1			

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16580

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16580

ORGAN AND ACCOUNTABLE SITE STATUS

Preputial Gland		Inflammation	Chronic, Mild
Prostate		Hyperplasia	Mild
		Inflammation	Chronic Active, Mild
Skin	Hair Follicle, Head	Inflammation	Acute, Mild
Note: INFLAMMATION--BL. 14B			
Spleen		Hematopoietic Cell Proliferation	Mild
		Hyperplasia	Lymphoid, Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
		Atrophy	Mild
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 2-5.1,3-5.1 [ Atrophy TGLS = 1-5.1 ]			
Thyroid Gland	C Cell	Hyperplasia	Moderate
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16582

TRT#: 1

SEX: Male

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16582

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Islets, Pancreatic	Mammary Gland	Pancreas	Parathyroid Gland
Prostate	Salivary Glands	Skin	Thyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
	Heart	Cardiomyopathy	Chronic, Moderate
		Leukemia Mononuclear	
Intestine Small			
Kidney			
Liver			
Lung			
Lymph Node			

Note: CARDIOMYOPATHY TGLs = 2-9

Note: LEUKEMIA MONUC TGLs = 3-11

Note: LEUKEMIA MONUC TGLs = 4-4

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16582

TRT#: 1

SEX: Male

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16582

ORGAN AND ACCOUNTABLE SITE STATUS

Mediastinal	Leukemia Mononuclear
Mesenteric	Leukemia Mononuclear
Renal	Leukemia Mononuclear
	Leukemia Mononuclear

Note: LEUKEMIA--HEPATIC L.N.

Note: LEUKEMIA MONUC TGLs = 6-15

Note: LEUKEMIA MONUC TGLs = 8-15.1

Note: LEUKEMIA MONUC TGLs = 5-3

Mesentery	Fat	Necrosis	Marked
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Note: NECROSIS--BL. 6A

Nose	Olfactory Epi	Degeneration	Mild
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	Respirat Epith	Degeneration	Mild
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	Lumen	Hemorrhage	Mild
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Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
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	Pars Distalis	Leukemia Mononuclear	
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Preputial Gland		Leukemia Mononuclear	
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Spleen		Hematopoietic Cell Proliferation	Mild
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		Leukemia Mononuclear	
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		Pigmentation	Minimal
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[ Leukemia Mononuclear TGLS = 1-12 ]

Stomach	Glandular, Mucosa	Dilatation	Mild
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	Forestomach	Erosion	Moderate
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	Forestomach	Inflammation	Acute, Moderate
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	Glandular	Inflammation	Acute, Moderate
--	-----------	--------------	-----------------

	Glandular	Leukemia Mononuclear	
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Note: INFLAMMATION TGLs = 9-6

Testes	Bilateral, Interstit Cell	Adenoma	
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	Interstit Cell	Hyperplasia	Mild
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Thymus		Leukemia Mononuclear	
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Trachea		Leukemia Mononuclear	
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Urinary Bladder		Leukemia Mononuclear	
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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:51  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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**ANIMAL ID:** 16582

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 733

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16582

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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: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16583

TRT#: 1

SEX: Male

DAY ON TEST: 473

DOSE: 0 PPM

DISP: Moribund

HISTO: 16583

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas	Parathyroid Gland	Preputial Gland
Salivary Glands	Skin	Stomach - Forestomach	Testes
Thymus	Thyroid Gland	Trachea	Urinary Bladder

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
		Hemorrhage	Mild
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Moderate
		Inflammation	Acute, Mild
Nose	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: CAUSE OF DEATH--ADENOMA [ Adenoma TGLS = 1-1 ]			
Prostate		Inflammation	Acute, Mild
Spleen		Hematopoietic Cell Proliferation	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16583

**TRT#:** 1

**DOSE:** 0 PPM

**SEX:** Male

**DISP:** Moribund

**DAY ON TEST:** 473

**HISTO:** 16583

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach

Glandular, Mucosa

Pigmentation

Mild

Dilatation

Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16584

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Accident

HISTO: 16584

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Minimal
Bone Marrow		Myelofibrosis	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Minimal
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Distalis	Adenoma	
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Chronic Active, Moderate
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

---

**ANIMAL ID:** 16584

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 0 PPM

**DISP:** Accident

**HISTO:** 16584

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Testes

Bilateral, Interstit Cell

Adenoma

Note: ADENOMA

TGLs = 1-5.1

Thyroid Gland

C Cell

Hyperplasia

Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16586

TRT#: 1

SEX: Male

DAY ON TEST: 631

DOSE: 0 PPM

DISP: Moribund

HISTO: 16586

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Epididymis	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland	Salivary Glands
Skin	Thyroid Gland		

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Inflammation	Acute, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 3-12			
Liver	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH [ Hyperplasia TGLS = 2-12 ]			
Lung		Hemorrhage	Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Lymph Node	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
Nose	Respirat Epith	Erosion	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16586

TRT#: 1

SEX: Male

DAY ON TEST: 631

DOSE: 0 PPM

DISP: Moribund

HISTO: 16586

ORGAN AND ACCOUNTABLE SITE STATUS

Pancreas	Mucosa	Inflammation	Acute, Mild
	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 7-1			
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Acute, Mild
Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
		Pigmentation	Mild
Note: FIBROSIS TGLs = 1-12			
Stomach	Glandular, Mucosa	Erosion	Minimal
	Forestomach	Inflammation	Acute, Moderate
Note: EROSION TGLs = 5-15			
Testes	Interstit Cell	Hyperplasia	Mild
Thymus		Cyst	
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 8-3			
Trachea		Leukemia Mononuclear	
Urinary Bladder		Hemorrhage	Mild
		Inflammation	Acute, Moderate
Note: HEMORRHAGE TGLs = 6-5			

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16588

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16588

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas	Parathyroid Gland
Stomach - Forestomach	Stomach - Glandular	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
	[ Nephropathy TGLS = 3-12 ]		
Liver		Focal Cellular Change	
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
	Note: REGIONAL L.N. NOT FOUND AT TRIM		
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Note: ADENOMA TGLs = 5-1		
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Chronic Active, Moderate
Salivary Glands		Infiltration Cellular	Lymphocyte, Mild
Skin	Subcut Tiss, Thoracic	Fibroma	
	[ Fibroma TGLS = 1-15 ]		
Spleen		Hematopoietic Cell Proliferation	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:51  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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**ANIMAL ID:** 16588

**TRT#:** 1  
**DOSE:** 0 PPM

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 732  
**HISTO:** 16588

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Testes		Pigmentation	Mild
		Atrophy	Mild
	Interstit Cell	Hyperplasia	Mild
Note: ATROPHY	TGLs = 4-5.1		
Thymus		Cyst	

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16589

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16589

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Pancreas	Parathyroid Gland	Prostate	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Moderate
Intestine Large	Rectum	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Marked
Nose	Olfactory Epi	Degeneration	Mild
	Lumen	Hemorrhage	Minimal
	Mucosa	Inflammation	Acute, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 2-1			
Preputial Gland		Inflammation	Chronic, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:51  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16589	<b>TRT#:</b> 1 <b>DOSE:</b> 0 PPM	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 732 <b>HISTO:</b> 16589
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Hematopoietic Cell Proliferation Pigmentation	Mild Mild
Testes	Interstit Cell Interstit Cell	Adenoma Hyperplasia	Mild

[ Adenoma TGLS = 1-5.1 ]

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PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16590

TRT#: 1

SEX: Male

DAY ON TEST: 472

DOSE: 0 PPM

DISP: Moribund

HISTO: 16590

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas
Prostate	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thyroid Gland	Urinary Bladder	

MISSING

Lymph Node - Mandibular	Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Heart		Adenosquamous Carcinoma	Metastatic (Lung)
		Cardiomyopathy	Chronic, Mild
Note: CARC ADENOSQUA TGLs = 3-15.1			
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Minimal
Liver		Congestion	Moderate
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
		Necrosis	Mild
Lung		Adenosquamous Carcinoma	
		Infiltration Cellular	Lymphocyte, Mild
Note: ADENOSQUAMOUS CA.--CAUSE OF DEATH			
Lymph Node		Adenosquamous Carcinoma	Metastatic (Lung)
Note: CARC ADENOSQUA TGLs = 2-15.2			
Note: MESENTERIC L.N. NORMAL			
Nose	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
Pituitary Gland	Pars Distalis	Cyst	
Preputial Gland		Inflammation	Chronic, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16590

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 472

**DOSE:** 0 PPM

**DISP:** Moribund

**HISTO:** 16590

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Hematopoietic Cell Proliferation	Minimal
		Hyperplasia	Lymphoid, Mild
Testes	Interstit Cell	Hyperplasia	Minimal
Thymus		Adenosquamous Carcinoma	Metastatic (Lung)
Note: CARC ADENOSQUA	TGLs = 1-15		
Trachea		Adenosquamous Carcinoma	Metastatic (Lung)

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16591

TRT#: 1

SEX: Male

DAY ON TEST: 614

DOSE: 0 PPM

DISP: Moribund

HISTO: 16591

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Skin	Thymus	Trachea	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal	
	Cortex	Leukemia Mononuclear		
	Medulla	Leukemia Mononuclear		
	Cortex	Pigmentation	Mild	
Bone Marrow		Leukemia Mononuclear		
	Brain	Hemorrhage	Marked	
Heart		Leukemia Mononuclear		
		Cardiomyopathy	Chronic, Mild	
		Leukemia Mononuclear		
Islets, Pancreatic		Hyperplasia	Moderate	
	Kidney		Nephropathy	Chronic, Mild
Renal Tubule			Pigmentation	Mild
			Angiectasis	Mild
Liver		Bile Duct	Hyperplasia	Mild
	Portal		Inflammation	Chronic, Mild
			Leukemia Mononuclear	
Lung		Infiltration Cellular	Lymphocyte, Mild	
		Leukemia Mononuclear		
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Minimal	
	Mesenteric	Hyperplasia	Lymphoid, Mild	
Mammary Gland	Duct	Ectasia	Minimal	
	Nose	Olfactory Epi	Degeneration	Mild
Lumen		Hemorrhage	Mild	
Mucosa		Inflammation	Acute, Mild	

Note: LEUKEMIA--CAUSE OF DEATH

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16591

TRT#: 1

SEX: Male

DAY ON TEST: 614

DOSE: 0 PPM

DISP: Moribund

HISTO: 16591

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Acinus	Atrophy	Marked
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Hyperplasia	Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-12 ]			
Stomach	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 2-5.1		
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16592

TRT#: 1

SEX: Male

DAY ON TEST: 663

DOSE: 0 PPM

DISP: Dead

HISTO: 16592

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas	Parathyroid Gland	Prostate
Salivary Glands	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
		Hemorrhage	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Minimal
Note: NEPHROPATHY--CAUSE OF DEATH			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Congestion	Moderate
		Hemorrhage	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic Active, Minimal
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Marked
	Duct	Ectasia	Mild
		Inflammation	Acute, Mild
Nose	Olfactory Epi	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16592

TRT#: 1

SEX: Male

DAY ON TEST: 663

DOSE: 0 PPM

DISP: Dead

HISTO: 16592

ORGAN AND ACCOUNTABLE SITE STATUS

Pituitary Gland Note: ADENOMA TGLs = 2-1	Mucosa Pars Distalis	Inflammation Adenoma	Acute, Mild
Preputial Gland		Inflammation	Chronic, Mild
Skin Note: HEMORRHAGE IN BL. 14.1	Hair Follicle, Head	Hemorrhage	Mild
Spleen		Hematopoietic Cell Proliferation Pigmentation	Mild Moderate
Stomach [ Dilatation TGLS = 3-15 ]	Glandular, Mucosa Forestomach	Dilatation Ulcer	Mild Moderate
Testes [ Adenoma TGLS = 1-5.1 ]	Interstit Cell Interstit Cell	Adenoma Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16593

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16593

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Salivary Glands	Skin	Stomach - Glandular
Thymus	Thyroid Gland	Trachea	Urinary Bladder

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Minimal
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 6-12			
Liver		Focal Cellular Change	
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Note: HEPATOCLR ADEN TGLs = 7-15			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
[ Infiltration Cellular TGLS = 2-4 ]			
Lymph Node			
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Moderate
[ Ectasia TGLS = 1-7+15.1 ]			
Nose	Mucosa	Inflammation	Acute, Minimal
Pancreas	Acinus	Atrophy	Marked
Parathyroid Gland		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

**ANIMAL ID:** 16593

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16593

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Hyperplasia	Mild
		Inflammation	Chronic Active, Moderate
Spleen		Hematopoietic Cell Proliferation	Moderate
		Mineralization	Mild
Note: HEMA CELL PROL	TGLs = 3-12		
Stomach	Forestomach	Cyst	
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 4-5.1		

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16594

TRT#: 1

SEX: Male

DAY ON TEST: 673

DOSE: 0 PPM

DISP: Moribund

HISTO: 16594

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas	Prostate	Salivary Glands
Skin	Trachea	Urinary Bladder	

MISSING

Parathyroid Gland	Thymus
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OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
		Hemorrhage	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 2-12			
Liver		Fatty Change	Moderate
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Moderate
	Mesenteric	Hyperplasia	Lymphoid, Minimal
Mammary Gland	Acinus	Ectasia	Moderate
	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Lumen	Foreign Body	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Moderate
	Respirat Epith	Metaplasia	Squamous, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16594

TRT#: 1

SEX: Male

DAY ON TEST: 673

DOSE: 0 PPM

DISP: Moribund

HISTO: 16594

ORGAN AND ACCOUNTABLE SITE STATUS

Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA--CAUSE OF DEATH			
Note: ADENOMA TGLs = 3-1			
Preputial Gland		Inflammation	Chronic Active, Mild
Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Inflammation	Chronic Active, Moderate
	Forestomach	Ulcer	Marked
Note: ULCER TGLs = 4-6+15			
Testes		Atrophy	Moderate
	Interstitial Cell	Hyperplasia	Minimal
[ Atrophy TGLS = 1-5.1 ]			
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16596

TRT#: 1

SEX: Male

DAY ON TEST: 625

DOSE: 0 PPM

DISP: Moribund

HISTO: 16596

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Prostate	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Moderate
Liver	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 2-11		
Lung		Hemorrhage	Moderate
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Note: LEUKEMIA MONUC	TGLs = 3-4		
Note: HEMORRHAGE	TGLs = 3-4		
Lymph Node	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
Pancreas	Acinus	Atrophy	Marked
Pituitary Gland	Pars Distalis	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16596

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 625

**DOSE:** 0 PPM

**DISP:** Moribund

**HISTO:** 16596

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Preputial Gland

Inflammation

Chronic Active, Mild

Spleen

Hematopoietic Cell Proliferation

Mild

Leukemia Mononuclear

Note: LEUKEMIA--CAUSE OF DEATH

[ Leukemia Mononuclear TGLS = 1-12 ]

Stomach

Glandular, Mucosa

Dilatation

Mild

Testes

Interstit Cell

Hyperplasia

Mild

Thyroid Gland

C Cell

Hyperplasia

Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16597

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16597

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Medulla	Hyperplasia	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Heart	Medulla	Pheochromocytoma Nos	
		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung		Hemorrhage	Minimal
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Monocytic	
		Mineralization	Minimal
	Arteriole		
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild

[ Leukemia Mononuclear TGLS = 1-11 ]

Note: LEUKEMIA MONO TGLs = 2-4

Note: MESENTERIC L.N. NORMAL

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16597

TRT#: 1

SEX: Male

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16597

ORGAN AND ACCOUNTABLE SITE STATUS

Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Foreign Body	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Marked
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 6-1		
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Hyperplasia	Mild
Spleen		Leukemia Mononuclear	
		Pigmentation	Mild
Note: LEUKEMIA MONUC	TGLs = 3-12		
Testes	Interstit Cell	Adenoma	
		Atrophy	Minimal
Note: ATROPHY	TGLs = 5-5.1		
Note: ADENOMA	TGLs = 4-5.1		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16598

TRT#: 1

SEX: Male

DAY ON TEST: 672

DOSE: 0 PPM

DISP: Dead

HISTO: 16598

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex  
Bone Marrow  
Intestine Large - Colon  
Intestine Small - Jejunum  
Stomach - Forestomach  
Urinary Bladder

Adrenal Gland - Medulla  
Epididymis  
Intestine Large - Rectum  
Islets, Pancreatic  
Stomach - Glandular

Blood Vessel  
Esophagus  
Intestine Small - Duodenum  
Salivary Glands  
Thyroid Gland

Bone  
Intestine Large - Cecum  
Intestine Small - Ileum  
Skin  
Trachea

MISSING

Parathyroid Gland

Thymus

OBSERVATIONS

Brain  
Heart  
Kidney

Hemorrhage  
Cardiomyopathy  
Nephropathy  
Pigmentation  
Congestion  
Hyperplasia  
Inflammation

Moderate  
Chronic, Moderate  
Chronic, Mild  
Mild  
Moderate  
Mild  
Chronic, Mild

Liver

Renal Tubule  
Bile Duct  
Portal

Congestion  
Hemorrhage  
Infiltration Cellular  
Mineralization

Marked  
Mild  
Lymphocyte, Mild  
Mild

[ Congestion TGLS = 2-11 ]

Lung

Arteriole

Note: CONGESTION TGLs = 3-4

Lymph Node

Mandibular  
Mesenteric

Hyperplasia  
Hyperplasia

Lymphoid, Mild  
Lymphoid, Mild

Mammary Gland

Acinus  
Duct

Ectasia  
Ectasia

Mild  
Mild

Nose

Olfactory Epi

Degeneration  
Inflammation

Mild  
Chronic Active, Mild

Pancreas

Acinus

Atrophy

Moderate

Pituitary Gland

Pars Distalis

Adenoma

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16598

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 672

**DOSE:** 0 PPM

**DISP:** Dead

**HISTO:** 16598

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA TGLs = 4-1

Note: ADENOMA--CAUSE OF DEATH

Preputial Gland

Inflammation

Chronic, Mild

Prostate

Inflammation

Chronic Active, Moderate

Spleen

Hematopoietic Cell Proliferation

Mild

Pigmentation

Mild

Testes

Interstitial Cell

Adenoma

[ Adenoma TGLS = 1-5.1 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16599

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16599

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Mammary Gland	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Trachea

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Islets, Pancreatic		Adenoma	
Kidney	Renal Tubule	Nephropathy	Chronic, Moderate
		Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Lumen	Hemorrhage	Mild
Pancreas	Acinus	Atrophy	Marked
Pituitary Gland	Pars Distalis	Atrophy	Mild
	Pars Nervosa	Pigmentation	Moderate
Note: ATROPHY	TGLs = 6-1		
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Chronic, Marked
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

**ANIMAL ID:** 16599

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16599

**ORGAN AND ACCOUNTABLE SITE STATUS**

Testes	Interstit Cell	Adenoma Atrophy	Moderate
Note: ATROPHY TGLs = 5-5.1 [ Atrophy TGLS = 3-5.1, 4-5.1 ]			
Thymus		Cyst	
Thyroid Gland	Follicle	Ectasia	Mild
Urinary Bladder		Calculus Gross Observation Inflammation	Chronic Active, Moderate
[ Calculus Gross Observation TGLS = 1-5 ] [ Inflammation TGLS = 2-5 ]			

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16601

TRT#: 1

SEX: Male

DAY ON TEST: 622

DOSE: 0 PPM

DISP: Dead

HISTO: 16601

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Preputial Gland	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thyroid Gland	Trachea
Urinary Bladder			

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Brain		Hemorrhage	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Intestine Large	Colon	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Congestion	Moderate
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Minimal
[ Congestion TGLS = 1-4 ]			
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Lumen	Hemorrhage	Minimal
	Mucosa	Inflammation	Chronic Active, Mild
Pancreas	Acinus	Atrophy	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16601

**TRT#:** 1

**DOSE:** 0 PPM

**SEX:** Male

**DISP:** Dead

**DAY ON TEST:** 622

**HISTO:** 16601

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland

Pars Distalis

Adenoma

Note: ADENOMA TGLs = 2-1

Note: ADENOMA--CAUSE OF DEATH

Prostate

Inflammation

Acute, Mild

Spleen

Pigmentation

Mild

Testes

Interstit Cell

Hyperplasia

Mild

Thymus

Congestion

Mild

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16602

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16602

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Parathyroid Gland	Pituitary Gland	Preputial Gland
Prostate	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Moderate
	Kidney	Nephropathy	Chronic, Moderate
Liver		Renal Tubule	Pigmentation
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
Lung	Portal	Inflammation	Chronic, Mild
		Hemorrhage	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Arteriole	Mineralization	Mild
	Mandibular	Congestion	Mild
		Mandibular	Hyperplasia
		Hyperplasia	Lymphoid, Mild

Note: REGIONAL L.N.--LYMPHOID HYPERPLASIA

Note: MESENTERIC L.N. NORMAL

Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Foreign Body	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:51  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

**ANIMAL ID:** 16602

**TRT#:** 1  
**DOSE:** 0 PPM

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 731  
**HISTO:** 16602

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Lumen	Hemorrhage	Mild
	Acinus	Atrophy	Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Interstit Cell	Adenoma	
		Atrophy	Mild
[ Adenoma TGLS = 1-5.1 ]			
[ Atrophy TGLS = 2-5.1 ]			
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Sarcoma	
Note: SARCOMA	TGLs = 3-15+5		

PRIMARY CAUSE OF DEATH -

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16603

TRT#: 1

SEX: Male

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16603

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Parathyroid Gland	Prostate	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Moderate
		Leukemia Mononuclear	
[ Cardiomyopathy TGLS = 1-9+15 ]			
Intestine Large	Rectum	Parasite Metazoan	
Islets, Pancreatic		Carcinoma	
Note: CARCINOMA TGLs = 9-15.1			
Kidney	Renal Tubule	Hyperplasia	Minimal
		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 6-12			
Liver		Angiectasis	Moderate
		Focal Cellular Change	
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Note: HEPATOCLR ADEN TGLs = 8-15.2			
Note: ANGIECTASIS IN BL. 15.1			
Lung	Alveolar Epith	Hyperplasia	Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic Active, Minimal
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16603

TRT#: 1

SEX: Male

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16603

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Mild
	Nasolacrim Dct	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
	Artery	Inflammation	Chronic, Mild
Note: INFLAMMATION--ARTERY--BL. 6			
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Note: [ HYPERPLASIA ] TGLs = 7-1			
Preputial Gland		Inflammation	Chronic, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Note: LEUKEMIA MONUC TGLs = 3-12			
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 4-5.1,5-5.1			
Thyroid Gland	Follicle	Adenoma	
Note: ADENOMA TGLs = 2-2			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16605

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16605

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea			

OBSERVATIONS

Bone Marrow		Myelofibrosis	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Minimal
Note: ATROPHY IN BL. 6			
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
Note: [ HYPERPLASIA ] TGLs = 5-1			
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Hyperplasia	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:51  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16605	<b>TRT#:</b> 1 <b>DOSE:</b> 0 PPM	<b>SEX:</b> Male <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 730 <b>HISTO:</b> 16605
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Hematopoietic Cell Proliferation Pigmentation	Mild Mild
Testes	Bilateral, Interstit Cell	Adenoma Atrophy	Moderate
	Serosa	Mesothelioma Malignant	
Note: ADENOMA TGLs = 1-5.1,3-5.1 [ Atrophy TGLS = 2-5.1 ]			
Thyroid Gland [ Adenoma TGLS = 4-2 ]	C Cell	Adenoma	
Urinary Bladder		Inflammation	Chronic, Moderate

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16606

TRT#: 1

SEX: Male

DAY ON TEST: 618

DOSE: 0 PPM

DISP: Dead

HISTO: 16606

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Bone Marrow	Brain
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	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Marked
Islets, Pancreatic		Adenoma	
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Minimal
Liver		Congestion	Mild
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
Lung		Leukemia Mononuclear	
		Congestion	Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Note: LEUKEMIA MONUC	TGLs = 2-4		
Note: CONGESTION	TGLs = 2-4		
Lymph Node	Mesenteric	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16606

TRT#: 1

SEX: Male

DAY ON TEST: 618

DOSE: 0 PPM

DISP: Dead

HISTO: 16606

ORGAN AND ACCOUNTABLE SITE STATUS

Mammary Gland	Acinus	Ectasia	Moderate
Nose	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 3-1			
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Chronic Active, Moderate
Spleen		Fibrosis	Moderate
		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Note: LEUKEMIA--CAUSE OF DEATH [ Fibrosis TGLS = 1-12 ]			
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16607

TRT#: 1

SEX: Male

DAY ON TEST: 602

DOSE: 0 PPM

DISP: Moribund

HISTO: 16607

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Pituitary Gland	Prostate
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Lymph Node - Mandibular	Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	
Bone Marrow		Leukemia Mononuclear	
	Heart	Cardiomyopathy	Chronic, Mild
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Moderate
		Pigmentation	Mild
		Hyperplasia	Mild
Liver	Renal Tubule	Inflammation	Chronic, Mild
	Bile Duct	Leukemia Mononuclear	
	Portal		
Note: LEUKEMIA MONUC	TGLs = 2-11		
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
		Mineralization	Minimal
Lymph Node	Arteriole	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 4-15		
Nose	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:51  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16607	<b>TRT#:</b> 1 <b>DOSE:</b> 0 PPM	<b>SEX:</b> Male <b>DISP:</b> Moribund	<b>DAY ON TEST:</b> 602 <b>HISTO:</b> 16607
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Preputial Gland		Inflammation	Chronic, Mild
Spleen		Hematopoietic Cell Proliferation Leukemia Mononuclear	Mild
Note: LEUKEMIA--CAUSE OF DEATH [ Hematopoietic Cell Proliferation TGLS = 1-12 ]			
Testes	Interstit Cell	Hyperplasia	Mild
Thymus		Leukemia Mononuclear	

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16608

TRT#: 1

SEX: Male

DAY ON TEST: 676

DOSE: 0 PPM

DISP: Moribund

HISTO: 16608

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Salivary Glands	Skin	Thymus	Thyroid Gland
Trachea			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Eye	Sclera	Mineralization	Moderate
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Intestine Small	Duodenum	Leukemia Mononuclear	
Kidney	Renal Tubule	Cyst	
		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 4-12			
Liver	Bile Duct	Hyperplasia	Marked
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 5-11			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16608

TRT#: 1

SEX: Male

DAY ON TEST: 676

DOSE: 0 PPM

DISP: Moribund

HISTO: 16608

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose	Olfactory Epi	Degeneration	Mild
	Lumen	Hemorrhage	Minimal
Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
	Pars Distalis	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Moderate
Prostate		Inflammation	Chronic Active, Moderate
Spleen		Leukemia Mononuclear	
		Pigmentation	Minimal
Note: LEUKEMIA--CAUSE OF DEATH [ Leukemia Mononuclear TGLS = 1-12 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Inflammation	Acute, Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 3-5.1			
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16610

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16610

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Foreign Body	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal
		Inflammation	Chronic, Mild
		Hyperplasia	Mild
		Inflammation	Chronic Active, Mild

Note: [ HYPERPLASIA ] TGLs = 2-1

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16610

**TRT#:** 1

**DOSE:** 0 PPM

**SEX:** Male

**DISP:** Terminal Sacrifice

**DAY ON TEST:** 729

**HISTO:** 16610

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Mild
Testes	Interstit Cell	Adenoma	
		Atrophy	Minimal
	Interstit Cell	Hyperplasia	Mild
[ Adenoma TGLS = 1-5.1 ]			

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16611

TRT#: 1

SEX: Male

DAY ON TEST: 677

DOSE: 0 PPM

DISP: Moribund

HISTO: 16611

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Trachea	Urinary Bladder

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Medulla	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 2-12			
Note: NEPHROPATHY--CAUSE OF DEATH			
Liver		Fatty Change	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Moderate
	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
Pancreas	Acinus	Adenoma	
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 3-1			
Preputial Gland	Duct	Ectasia	Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16611

**TRT#:** 1

**DOSE:** 0 PPM

**SEX:** Male

**DISP:** Moribund

**DAY ON TEST:** 677

**HISTO:** 16611

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Ectasia TGLS = 1-15+5.2 ]		Inflammation	Chronic Active, Moderate
Prostate		Inflammation	Acute, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Interstit Cell	Hyperplasia	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16612

TRT#: 1

SEX: Male

DAY ON TEST: 416

DOSE: 0 PPM

DISP: Moribund

HISTO: 16612

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Epididymis	Esophagus
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Mammary Gland	Pituitary Gland	Salivary Glands	Skin

MISSING

Lymph Node - Mandibular	Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Minimal
Bone Marrow		Leukemia Mononuclear	
	Brain	Hemorrhage	Moderate
Heart		Leukemia Mononuclear	
	Intestine Large	Cecum	Leukemia Mononuclear
Colon		Leukemia Mononuclear	
Rectum		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Minimal
	Renal Tubule	Pigmentation	Mild
	Liver	Bile Duct	Hyperplasia
Portal		Inflammation	Chronic, Mild
			Leukemia Mononuclear
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Pleura	Inflammation	Chronic Active, Mild
			Leukemia Mononuclear
	Arteriole	Mineralization	Mild

Note: LEUKEMIA MONUC TGLs = 4-11

Note: LEUKEMIA--CAUSE OF DEATH

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16612

TRT#: 1

SEX: Male

DAY ON TEST: 416

DOSE: 0 PPM

DISP: Moribund

HISTO: 16612

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mesenteric	Leukemia Mononuclear	
	Renal	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 7-1			
Note: LEUKEMIA MONUC TGLs = 8-15.1			
Nose	Olfactory Epi	Degeneration	Mild
Pancreas		Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Acute, Moderate
Note: INFLAMMATION TGLs = 3-5			
Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLs = 1-12 ]			
Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Erosion	Moderate
	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	
Note: EROSION TGLs = 6-15			
Testes	Interstit Cell	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 9-5.1			
Thymus		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 5-3			
Thyroid Gland		Leukemia Mononuclear	
Trachea		Leukemia Mononuclear	
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16615

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16615

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Islets, Pancreatic
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thyroid Gland	Trachea		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild	
	Medulla	Hyperplasia	Mild	
	Cortex	Leukemia Mononuclear		
	Medulla	Leukemia Mononuclear		
	Medulla	Pheochromocytoma Nos		
Bone Marrow		Leukemia Mononuclear		
	Brain	Hemorrhage	Minimal	
Heart		Cardiomyopathy	Chronic, Moderate	
		Leukemia Mononuclear		
Intestine Small	Duodenum	Leukemia Mononuclear		
	Ileum	Leukemia Mononuclear		
	Jejunum	Leukemia Mononuclear		
	Kidney	Renal Tubule	Hyperplasia	Mild
Liver	Renal Tubule	Nephropathy	Chronic, Marked	
		Pigmentation	Mild	
	Note: NEPHROPATHY TGLs = 6-12			
		Focal Cellular Change		
Lung	Bile Duct	Hyperplasia	Marked	
	Portal	Inflammation	Chronic, Mild	
		Leukemia Mononuclear		
Note: HYPERPLASIA TGLs = 4-12+15				
Arteriole		Infiltration Cellular	Lymphocyte, Mild	
		Leukemia Mononuclear		
		Mineralization	Minimal	
Note: LEUKEMIA MONUC TGLs = 2-4				

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16615

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16615

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mandibular Mesenteric	Hyperplasia Leukemia Mononuclear	Lymphoid, Mild
Note: LEUKEMIA IN HEPATIC (REGIONAL) L.N.			
Mammary Gland	Acinus	Ectasia Inflammation	Moderate Chronic, Mild
Nose	Olfactory Epi Respirat Epith Mucosa	Degeneration Degeneration Inflammation	Mild Mild Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis Pars Distalis	Hyperplasia Leukemia Mononuclear	Mild
Preputial Gland		Inflammation Leukemia Mononuclear	Chronic, Mild
Prostate		Hyperplasia	Mild
Spleen		Fibrosis Leukemia Mononuclear	Moderate
[ Fibrosis TGLS = 1-12 ]			
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Interstit Cell Interstit Cell	Adenoma Hyperplasia	Mild
Note: ADENOMA TGLs = 5-5.1			
Thymus		Leukemia Mononuclear	
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16616

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16616

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Parathyroid Gland	Salivary Glands
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Angiectasis	Minimal
	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
	[ Hyperplasia TGLS = 1-11 ]		
	[ Leukemia Mononuclear TGLS = 1-11 ]		
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Erosion	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16616

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16616

ORGAN AND ACCOUNTABLE SITE STATUS

Pancreas	Acinus	Atrophy	Moderate
	Acinus	Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Cyst	
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Hyperplasia	Mild
Skin	Head	Inflammation	Chronic Active, Mild
Note: INFLAMMATION--BL. 14A			
Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 2-12			
Stomach	Glandular, Mucosa	Erosion	Moderate
Note: EROSION TGLs = 5-6			
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 3-5.1,4-5.1			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16617

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16617

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Prostate	Salivary Glands	Stomach - Forestomach
Stomach - Glandular	Testes	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Moderate
Kidney	Renal Tubule	Hyperplasia	Marked
		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lymph Node	Arteriole	Mineralization	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16617

TRT#: 1

SEX: Male

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16617

ORGAN AND ACCOUNTABLE SITE STATUS

Mesentery [ Necrosis TGLS = 3-15.1 ]	Fat	Necrosis	Moderate
Nose	Olfactory Epi	Degeneration	Minimal
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 7-1			
Preputial Gland		Carcinoma	
		Inflammation	Chronic, Mild
[ Carcinoma TGLS = 2-15 ]			
Skin	Subcut Tiss	Fibroma	
[ Fibroma TGLS = 1-15.2 ]			
Spleen		Hematopoietic Cell Proliferation	Mild
[ Leukemia Mononuclear TGLS = 4-12 ]		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16618

TRT#: 1

SEX: Male

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16618

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 2-12			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 3-11			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Mucosa	Inflammation	Acute, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 6-1			
Preputial Gland		Inflammation	Chronic, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16618

**TRT#:** 1

**DOSE:** 0 PPM

**SEX:** Male

**DISP:** Terminal Sacrifice

**DAY ON TEST:** 730

**HISTO:** 16618

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Prostate		Inflammation	Chronic Active, Moderate
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Minimal
[ Hematopoietic Cell Proliferation TGLS = 1-12 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
Note: ADENOMA	TGLs = 4-5.1,5-5.1		

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16619

TRT#: 1

SEX: Male

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16619

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas
Parathyroid Gland	Prostate	Salivary Glands	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
	Cortex	Hypertrophy	Minimal
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Minimal
	[ Nephropathy TGLS = 2-12 ]		
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Minimal
Lymph Node	Mandibular	Congestion	Moderate
	Mandibular	Hyperplasia	Lymphoid, Minimal
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Erosion	Mild
	Mucosa	Inflammation	Acute, Moderate
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Skin	Head	Inflammation	Acute, Mild
	Tail	Inflammation	Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16619

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16619

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ACUTE INFLAMMATION--BL. 14B

[ Inflammation TGLS = 1-15 ]

Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild

Note: ADENOMA TGLs = 3-5.1

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16680

TRT#: 2

SEX: Male

DAY ON TEST: 681

DOSE: 600 PPM

DISP: Natural Death

HISTO: 16680

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Bone Marrow	Epididymis
Esophagus	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Prostate	Salivary Glands	Thymus	Thyroid Gland
Trachea			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Marked
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Cecum	Hemorrhage	Moderate
Kidney		Histiocytic Sarcoma	Metastatic (Uncertain Primary Site)
		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Histiocytic Sarcoma	Metastatic (Uncertain Primary Site)
	Bile Duct	Hyperplasia	Mild
Note: [ HISTIO SARC ] TGLs = 1-11			
Lung		Histiocytic Sarcoma	Metastatic (Uncertain Primary Site)
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Note: [ HISTIO SARC ] TGLs = 4,5-4+15.2			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Moderate
Mammary Gland	Acinus	Ectasia	Moderate
	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Moderate
	Mucosa	Inflammation	Acute, Mild
	Nasolacrim Dct	Inflammation	Acute, Minimal
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16680

TRT#: 2

SEX: Male

DAY ON TEST: 681

DOSE: 600 PPM

DISP: Natural Death

HISTO: 16680

ORGAN AND ACCOUNTABLE SITE STATUS

Pituitary Gland Note: [ ADENOMA ] TGLs = 2-1	Pars Distalis	Adenoma	
Preputial Gland		Hyperplasia Inflammation	Mild Chronic, Mild
Skin Note: [ HISTIO SARC ] TGLs = 6-15		Histiocytic Sarcoma	Metastatic (Uncertain Primary Site)
Spleen		Hematopoietic Cell Proliferation Pigmentation	Mild Mild
Stomach  Note: ULCER TGLs = 7-15.1+6.1	Glandular, Mucosa Forestomach Glandular, Mucosa	Erosion Ulcer Ulcer	Mild Marked Marked
Testes  Note: ATROPHY TGLs = 3-5.1	Interstit Cell	Atrophy Hyperplasia	Minimal Mild
Urinary Bladder		Inflammation	Chronic, Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16681

TRT#: 2

SEX: Male

DAY ON TEST: 283

DOSE: 600 PPM

DISP: Dead

HISTO: 16681

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Blood Vessel	Bone
Bone Marrow	Brain	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Kidney	Liver
Lymph Node - Mandibular	Mammary Gland	Pancreas	Parathyroid Gland
Preputial Gland	Prostate	Salivary Glands	Seminal Vesicle
Skin	Stomach - Forestomach	Stomach - Glandular	Testes
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Colon	Parasite Metazoan	
Lung		Congestion	Moderate
		Infiltration Cellular	Lymphocyte, Minimal
	Arteriole	Mineralization	Mild
Lymph Node			
Note: MESENTERIC L.N. NORMAL			
Nose	Olfactory Epi	Degeneration	Mild
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Cyst	
Spleen		Pigmentation	Moderate

PRIMARY CAUSE OF DEATH

-

Animal Note: CAUSE OF DEATH UNKNOWN

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16682

TRT#: 2

SEX: Male

DAY ON TEST: 625

DOSE: 600 PPM

DISP: Moribund

HISTO: 16682

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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
Pancreas	Parathyroid Gland	Prostate	Salivary Glands
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Capsule	Fibrosarcoma	Metastatic (Skin)
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney	Capsule	Fibrosarcoma	Metastatic (Skin)
		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
		Necrosis	Moderate
Note: NECROSIS TGLs = 4-15.1			
Lung		Fibrosarcoma	Metastatic (Skin)
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
[ Infiltration Cellular TGLS = 3-15.3 ]			
Lymph Node		Fibrosarcoma	Metastatic (Skin)
		Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Note: REGIONAL L.N. HYPERPLASTIC			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

**ANIMAL ID:** 16682

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 625

**DOSE:** 600 PPM

**DISP:** Moribund

**HISTO:** 16682

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
	Pars Intermed	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic, Mild
Skin	Subcut Tiss	Fibrosarcoma	
Note: FIBROSARCOMA--CAUSE OF DEATH [ Fibrosarcoma TGLS = 2-15 ]			
Spleen		Hematopoietic Cell Proliferation	Moderate
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
[ Hyperplasia TGLS = 1-5.1 ]			
Urinary Bladder		Fibrosarcoma	Metastatic (Skin)
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16683

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16683

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone	Cranium	Fibrous Osteodystrophy	
	Femur	Fibrous Osteodystrophy	
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Mild
Kidney	Renal Tubule	Hyperplasia	Moderate
		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 5-12			
Note: NEPHROPATHY--CAUSE OF DEATH			
Liver		Developmental Malformation	
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: DEVELOP MALFOR TGLs = 3-15			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16683

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16683

ORGAN AND ACCOUNTABLE SITE STATUS

		Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N.--HYPERPLASTIC			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Olfactory Epi	Erosion	Mild
	Mucosa	Hemorrhage	Minimal
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
Preputial Gland		Inflammation	Chronic, Moderate
Prostate		Hyperplasia	Minimal
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Note: LEUKEMIA MONUC TGLs = 6-12			
Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Erosion	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 1-5.1			
Thyroid Gland	C Cell	Adenoma	
	Follicle	Adenoma	
Note: ADENOMA TGLs = 4-1			
Zymbal's Gland		Carcinoma	
Note: [ CARCINOMA ] TGLs = 2-15.1			
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16684

TRT#: 2

SEX: Male

DAY ON TEST: 689

DOSE: 600 PPM

DISP: Natural Death

HISTO: 16684

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Small - Ileum	Islets, Pancreatic	Parathyroid Gland
Salivary Glands	Skin		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Minimal
Bone	Femur	Fibrous Osteodystrophy	
Bone Marrow		Leukemia Mononuclear	
Brain		Hemorrhage	Mild
		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Moderate
		Leukemia Mononuclear	
Intestine Large	Rectum	Ulcer	Marked
Intestine Small	Duodenum	Leukemia Mononuclear	
	Jejunum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
	Renal Tubule	Nephropathy	Chronic, Marked
		Pigmentation	Mild
Note: NEPHROPATHY TGLs = 5-12			
Note: NEPHROPATHY--CAUSE OF DEATH			
Liver		Developmental Malformation	
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Marked
	Portal	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 4-11+15.1			
Note: DEVELOP MALFOR TGLs = 8-15.1			
Lung		Hemorrhage	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16684

TRT#: 2

SEX: Male

DAY ON TEST: 689

DOSE: 600 PPM

DISP: Natural Death

HISTO: 16684

ORGAN AND ACCOUNTABLE SITE STATUS

		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Lymph Node	Arteriole	Mineralization	Mild
	Mandibular	Hyperplasia	Lymphoid, Moderate
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Lumen	Hemorrhage	Minimal
Pancreas	Acinus	Atrophy	Mild
	Acinus	Hyperplasia	Mild
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
	Pars Distalis	Leukemia Mononuclear	
	Pars Intermed	Leukemia Mononuclear	
	Pars Nervosa	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic Active, Mild
		Leukemia Mononuclear	
Prostate		Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Spleen		Hematopoietic Cell Proliferation	Mild
		Infarct	Marked
		Leukemia Mononuclear	
		Pigmentation	Mild
Note: LEUKEMIA--CAUSE OF DEATH			
[ Hematopoietic Cell Proliferation TGLS = 7-15 ]			
[ Pigmentation TGLS = 1-12+15 ]			
Stomach	Glandular, Mucosa	Erosion	Mild
	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	

Note: EROSION TGLs = 6-15.2+6

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16684

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 689

**DOSE:** 600 PPM

**DISP:** Natural Death

**HISTO:** 16684

**ORGAN AND ACCOUNTABLE SITE STATUS**

Testes	Interstit Cell	Adenoma	
		Atrophy	Mild
	Interstit Cell	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: ADENOMA TGLs = 3-5.1 [ Adenoma TGLS = 2-5.1 ]			
Thymus		Congestion	Marked
		Leukemia Mononuclear	
Thyroid Gland	Follicle	Ectasia	Mild
		Leukemia Mononuclear	
Trachea		Leukemia Mononuclear	
Urinary Bladder		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16685

TRT#: 2

SEX: Male

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16685

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	Urinary Bladder

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Mild
Kidney	Renal Tubule	Hyperplasia	Mild
	Renal Tubule	Nephropathy	Chronic, Marked
		Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 6-12		
Liver		Focal Cellular Change	
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
		Pigmentation	Cholesterol, Mild
Note: PIGMENT	TGLs = 5-4		
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Marked
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16685

TRT#: 2

SEX: Male

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16685

ORGAN AND ACCOUNTABLE SITE STATUS

Pancreas	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 7-1			
Preputial Gland		Inflammation	Chronic Active, Marked
Note: INFLAMMATION TGLs = 1-15+5.2			
Prostate		Inflammation	Chronic Active, Moderate
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 2,3-5.1			
Thyroid Gland	C Cell	Carcinoma	
Note: [ CARCINOMA ] TGLs = 4-2			
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16687

TRT#: 2

SEX: Male

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16687

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Mammary Gland	Parathyroid Gland	Prostate
Salivary Glands	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Granuloma	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
[ Infiltration Cellular TGLS = 1-4 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Moderate
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 3-1			
Preputial Gland		Inflammation	Chronic, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

**ANIMAL ID:** 16687

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16687

**ORGAN AND ACCOUNTABLE SITE STATUS**

Skin Note: SLIDE 14.1+14.2	Head	Inflammation	Acute, Marked
Spleen		Hematopoietic Cell Proliferation Pigmentation	Mild Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes		Atrophy	Mild
Note: ATROPHY      TGLs = 2-5.1	Interstit Cell	Hyperplasia	Mild
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16688

TRT#: 2

SEX: Male

DAY ON TEST: 688

DOSE: 600 PPM

DISP: Moribund

HISTO: 16688

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Pancreas	Parathyroid Gland	Prostate	Skin
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Mild
Kidney	Renal Tubule	Hyperplasia	Marked
		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY--CAUSE OF DEATH			
Note: NEPHROPATHY TGLs = 6-12			
Liver		Fatty Change	Marked
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
Note: FATTY CHANGE TGLs = 4-11			
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
	Mandibular	Hyperplasia	Lymphoid, Moderate
Lymph Node			
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Marked
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 5-1			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16688

TRT#: 2

SEX: Male

DAY ON TEST: 688

DOSE: 600 PPM

DISP: Moribund

HISTO: 16688

ORGAN AND ACCOUNTABLE SITE STATUS

Preputial Gland		Inflammation	Chronic, Mild
Salivary Glands	Acinus	Atrophy	Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Inflammation	Chronic Active, Marked
	Forestomach	Ulcer	Marked
	Glandular, Mucosa	Ulcer	Marked
	[ Inflammation TGLS = 2-6+15 ]		
	[ Ulcer TGLS = 1-15 ]		
	[ Ulcer TGLS = 3-15 ]		
Testes	Interstit Cell	Adenoma	
		Atrophy	Marked
	Interstit Cell	Hyperplasia	Minimal
Note: ADENOMA	TGLs = 8-5.1		
Note: ATROPHY	TGLs = 7-5.1		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16689

TRT#: 2

SEX: Male

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16689

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Parathyroid Gland	Prostate	Salivary Glands
Stomach - Forestomach	Stomach - Glandular	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Developmental Malformation	
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
[ Developmental Malformation TGLS = 3-15 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic, Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Moderate
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Marked
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Respirat Epith	Erosion	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

**ANIMAL ID:** 16689

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 733

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16689

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 4-1		
Preputial Gland		Inflammation	Chronic, Mild
Skin		Cyst Epithelial Inclusion	
Note: CYST EPITH INC	TGLs = 1-15.2		
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes		Atrophy	Marked
	Interstitial Cell	Hyperplasia	Mild
Note: ATROPHY	TGLs = 2-5.1		
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16690

TRT#: 2

SEX: Male

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16690

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Prostate	Salivary Glands	Skin
Stomach - Forestomach			

OBSERVATIONS

Adrenal Gland	Cortex	Adenoma	
	Cortex	Degeneration	Fatty, Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Malignant	
	Cortex	Pigmentation	Mild
Note: [ PHEOCHROM MAL ] TGLs = 5-1			
Note: ADENOMA TGLs = 5-1			
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: INFLAMMATION TGLs = 4-11.1			
Note: INFLAMMATION PROMINENT IN RECUT--SLIDE 11.1			
[ Hyperplasia TGLS = 1-11 ]			
Lung		Leukemia Mononuclear	
Lymph Node	Iliac	Leukemia Mononuclear	
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 3-1			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16690

TRT#: 2

SEX: Male

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16690

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC	TGLs = 8-15			
Mammary Gland		Acinus	Ectasia	Mild
		Duct	Ectasia	Mild
Nose		Olfactory Epi	Degeneration	Mild
		Respirat Epith	Degeneration	Minimal
		Mucosa	Inflammation	Acute, Minimal
Pancreas		Acinus	Atrophy	Moderate
			Leukemia Mononuclear	
Pituitary Gland		Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 9-1			
Preputial Gland			Inflammation	Chronic Active, Moderate
Spleen			Hematopoietic Cell Proliferation	Mild
			Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 2-12			
Stomach		Glandular, Mucosa	Dilatation	Mild
		Glandular, Mucosa	Erosion	Moderate
Testes		Interstit Cell	Adenoma	
		Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 7-5.1			
Thymus			Cyst	
Thyroid Gland		C Cell	Hyperplasia	Minimal
Trachea			Leukemia Mononuclear	
Urinary Bladder			Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16692

TRT#: 2

SEX: Male

DAY ON TEST: 478

DOSE: 600 PPM

DISP: Moribund

HISTO: 16692

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Pancreas	Parathyroid Gland	Pituitary Gland	Prostate
Salivary Glands	Skin	Stomach - Forestomach	Testes
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Bone Marrow		Leukemia Mononuclear	
Brain		Hemorrhage	Mild
		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
[ Hyperplasia TGLS = 2-11 ]			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Leukemia Mononuclear	
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Respirat Epith	Erosion	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16692

TRT#: 2

SEX: Male

DAY ON TEST: 478

DOSE: 600 PPM

DISP: Moribund

HISTO: 16692

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Lumen	Foreign Body	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Preputial Gland		Leukemia Mononuclear	
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH [ Hematopoietic Cell Proliferation TGLS = 1-12 ]			
Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Erosion	Mild
Thymus		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16693

TRT#: 2

SEX: Male

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16693

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Prostate
Salivary Glands	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Moderate
	Atrium	Thrombosis	
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
Lung	Portal	Inflammation	Chronic, Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Mild
Lymph Node	Arteriole	Mineralization	Mild
	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Moderate
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Moderate
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

**ANIMAL ID:** 16693

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16693

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland Note: HYPERPLASIA TGLs = 5-1	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic, Mild
Skin Note: KERATOACANTHOMA TGLs = 4-15		Keratoacanthoma	
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell Interstit Cell	Adenoma Hyperplasia	Mild
Note: ADENOMA TGLs = 1,2-5.1			
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16694

TRT#: 2

SEX: Male

DAY ON TEST: 624

DOSE: 600 PPM

DISP: Moribund

HISTO: 16694

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Blood		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 10-16		
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
	Renal Tubule	Nephropathy	Chronic, Mild
		Pigmentation	Marked
[ Pigmentation TGLS = 4-12 ]			
Liver	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
[ Hyperplasia TGLS = 2-11 ]			
Lung	Peribronchiolr	Infiltration Cellular	Lymphocyte, Mild
		Inflammation	Chronic, Marked
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Note: INFLAMMATION	TGLs = 6-4		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16694

TRT#: 2

SEX: Male

DAY ON TEST: 624

DOSE: 600 PPM

DISP: Moribund

HISTO: 16694

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 7-15 [ Leukemia Mononuclear TGLS = 3-1 ]			
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
Pancreas	Acinus	Atrophy	Mild
		Leukemia Mononuclear	
Note: LESIONS FOUND ON WET TISSUE REVIEW			
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 9-1			
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Leukemia Mononuclear	
Spleen		Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH [ Leukemia Mononuclear TGLS = 1-12 ]			
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Interstit Cell	Hyperplasia	Mild
Thymus		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16695

TRT#: 2

SEX: Male

DAY ON TEST: 618

DOSE: 600 PPM

DISP: Moribund

HISTO: 16695

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Skin	Trachea		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Brain		Hemorrhage	Marked
		Leukemia Mononuclear	
Note: HEMORRHAGE TGLs = 7-10			
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Islets, Pancreatic		Hyperplasia	Mild
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Hemorrhage	Mild
	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 2-11			
Lung		Infiltration Cellular	Lymphocyte, Mild
	Peribronchiolr	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Note: INFLAMMATION TGLs = 5-4			
Note: LEUKEMIA MONUC TGLs = 5-4			
Lymph Node	Mediastinal	Congestion	Marked

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16695

TRT#: 2

SEX: Male

DAY ON TEST: 618

DOSE: 600 PPM

DISP: Moribund

HISTO: 16695

ORGAN AND ACCOUNTABLE SITE STATUS

	Mandibular	Hyperplasia	Lymphoid, Mild
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	

Note: CONGESTION TGLs = 6-15

Mammary Gland

Acinus	Ectasia	Moderate
Duct	Ectasia	Moderate

Nose

Olfactory Epi	Degeneration	Mild
Respirat Epith	Erosion	Mild
Lumen	Foreign Body	Mild
Lumen	Hemorrhage	Mild

Pancreas

Mucosa	Inflammation	Acute, Moderate
Olfactory Epi	Metaplasia	Moderate

Pituitary Gland

Acinus	Atrophy	Marked
Pars Distalis	Adenoma	
Pars Distalis	Cyst	
Pars Intermed	Cyst	

Note: CYST TGLs = 8-1

Note: ADENOMA TGLs = 8-1

Preputial Gland

Inflammation Chronic, Mild

Prostate

Inflammation Acute, Mild

Spleen

Hematopoietic Cell Proliferation Mild

Leukemia Mononuclear

Note: LEUKEMIA--CAUSE OF DEATH

[ Hematopoietic Cell Proliferation TGLS = 1-12 ]

Stomach

Glandular, Mucosa	Congestion	Mild
Forestomach	Inflammation	Acute, Marked
Forestomach	Ulcer	Marked

Note: CONGESTION TGLs = 3-6

Testes

Interstitial Cell	Congestion	Mild
	Hyperplasia	Mild

Note: CONGESTION TGLs = 4-5.1

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16695

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 618

**DOSE:** 600 PPM

**DISP:** Moribund

**HISTO:** 16695

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Thymus

Congestion

Moderate

Thyroid Gland

C Cell

Hyperplasia

Minimal

Urinary Bladder

Leukemia Mononuclear

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16696

TRT#: 2

SEX: Male

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16696

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Prostate	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Heart		Leukemia Mononuclear	
Intestine Large	Colon	Parasite Metazoan	
	Rectum	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
		Mineralization	Mild
Lymph Node	Arteriole		
	Mandibular	Congestion	Mild
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Duct	Ectasia	Minimal
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
Pancreas	Acinus	Atrophy	Marked
Pituitary Gland	Pars Distalis	Cyst	

Note: LEUKEMIA MONUC TGLs = 4-11

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16696

TRT#: 2

SEX: Male

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16696

ORGAN AND ACCOUNTABLE SITE STATUS

Preputial Gland		Inflammation	Chronic, Moderate
Spleen		Leukemia Mononuclear Pigmentation	Minimal
Note: LEUKEMIA MONUC	TGLs = 1-12		
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma Atrophy	Mild
Note: ADENOMA	TGLs = 2-5.1	Hyperplasia	Mild
Note: ATROPHY	TGLs = 3-5.1		
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16697

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16697

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Mammary Gland
Parathyroid Gland	Prostate	Salivary Glands	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Intestine Large	Rectum	Ulcer	Moderate
Islets, Pancreatic		Adenoma	
Kidney	Renal Tubule	Adenoma	
	Renal Tubule	Nephropathy	Chronic, Moderate
		Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 3-12		
Liver		Angiectasis	Mild
		Focal Cellular Change	
		Hematopoietic Cell Proliferation	Minimal
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
		Pigmentation	Cholesterol, Minimal
Note: INFILTRAT CELL	TGLs = 4-4		
Note: INFLAMMATION	TGLs = 4-4		
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16697

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16697

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
Note: [ HYPERPLASIA ] TGLs = 5-1			
Preputial Gland		Inflammation	Chronic, Mild
Skin	Subcut Tiss	Fibrosarcoma	
[ Fibrosarcoma TGLS = 1-15 ]			
Spleen		Hematopoietic Cell Proliferation	Moderate
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
[ Adenoma TGLS = 2-5.1 ]			
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16698

TRT#: 2

SEX: Male

DAY ON TEST: 572

DOSE: 600 PPM

DISP: Moribund

HISTO: 16698

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Mammary Gland	Parathyroid Gland	Prostate
Salivary Glands	Skin	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Heart	Atrium	Cardiomyopathy	Chronic, Mild
		Thrombosis	
Intestine Large	Colon	Parasite Metazoan	
Kidney	Renal Tubule	Nephropathy	Chronic, Mild
		Pigmentation	Moderate
	[ Nephropathy TGLS = 3-12 ]		
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 2-11		
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Note: LEUKEMIA MONUC	TGLs = 8-4+15.1		
Lymph Node	Mediastinal	Congestion	Marked
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 7-15		
Note: CONGESTION	TGLs = 7-15		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16698

TRT#: 2

SEX: Male

DAY ON TEST: 572

DOSE: 600 PPM

DISP: Moribund

HISTO: 16698

ORGAN AND ACCOUNTABLE SITE STATUS

Nose	Respirat Epith Mucosa	Erosion Inflammation	Mild Acute, Mild
Pancreas	Acinus Acinus	Atrophy Hyperplasia	Moderate Mild
Pituitary Gland	Pars Distalis Pars Distalis	Adenoma Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic, Moderate
Spleen		Hematopoietic Cell Proliferation Leukemia Mononuclear	Mild
Note: LEUKEMIA--CAUSE OF DEATH [ Hematopoietic Cell Proliferation TGLS = 1-12 ]			
Stomach	Forestomach	Leukemia Mononuclear	
Testes	Interstit Cell	Atrophy Hyperplasia	Marked Mild
Note: ATROPHY TGLs = 5-5.1			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16699

TRT#: 2

SEX: Male

DAY ON TEST: 698

DOSE: 600 PPM

DISP: Moribund

HISTO: 16699

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex Medulla	Degeneration Pheochromocytoma Nos	Fatty, Mild
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung	Alveolar Epith Alveolus	Hyperplasia Infiltration Cellular Infiltration Cellular	Moderate Histiocyte, Mild Lymphocyte, Mild
	Arteriole	Leukemia Mononuclear Mineralization	Mild
Note: HYPERPLASIA TGLs = 6-15.1 [ Hyperplasia TGLS = 4-4+15.1 ]			
Lymph Node	Mandibular Mandibular Mesenteric	Cyst Hyperplasia Leukemia Mononuclear	Lymphoid, Moderate
Note: MANDIB. L.N.-REGIONAL FOR ZYMBALS GLAND CARCINOMA [ Cyst TGLS = 2-3.2 ]			
Mammary Gland	Duct	Ectasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16699

TRT#: 2

SEX: Male

DAY ON TEST: 698

DOSE: 600 PPM

DISP: Moribund

HISTO: 16699

ORGAN AND ACCOUNTABLE SITE STATUS

Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Mild
Note: HYPERPLASIA	TGLs = 5-1		
Note: CYST	TGLs = 5-1		
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Hyperplasia	Mild
Spleen		Fibrosis	Mild
		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Minimal
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
[ Adenoma TGLS = 3-5.1 ]			
Thyroid Gland	C Cell	Hyperplasia	Mild
Zymbal's Gland		Carcinoma	
Note: CARCINOMA--CAUSE OF DEATH			
Note: NOTE SQUAMOUS METAPLASIA			
[ Carcinoma TGLS = 1-15 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16700

TRT#: 2

SEX: Male

DAY ON TEST: 570

DOSE: 600 PPM

DISP: Dead

HISTO: 16700

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas	Parathyroid Gland	Prostate
Salivary Glands	Seminal Vesicle	Skin	Stomach - Forestomach
Stomach - Glandular	Thyroid Gland	Trachea	Urinary Bladder

MISSING

Lymph Node - Mandibular	Mammary Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Brain		Hemorrhage	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Congestion	Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Note: CONGESTION	TGLs = 3-4		
Lymph Node	Mesenteric	Inflammation	Acute, Mild
Nose	Olfactory Epi	Degeneration	Minimal
	Lumen	Foreign Body	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Angiectasis	Mild
	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Spleen		Hematopoietic Cell Proliferation	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16700

**TRT#:** 2

**DOSE:** 600 PPM

**SEX:** Male

**DISP:** Dead

**DAY ON TEST:** 570

**HISTO:** 16700

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Testes

Interstit Cell

Pigmentation

Moderate

Adenoma

Interstit Cell

Hyperplasia

Mild

[ Adenoma TGLS = 2-5.1 ]

Thymus

Congestion

Mild

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**PRIMARY CAUSE OF DEATH**

-

Animal Note: CAUSE OF DEATH UNKNOWN

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16701

TRT#: 2

DOSE: 600 PPM

SEX: Male

DISP: Terminal Sacrifice

DAY ON TEST: 732

HISTO: 16701

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Prostate	Salivary Glands	Skin
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 2-12			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 1-11			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Moderate
	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Respirat Epith	Erosion	Mild
	Lumen	Foreign Body	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16701

TRT#: 2

SEX: Male

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16701

ORGAN AND ACCOUNTABLE SITE STATUS

Pancreas	Respirat Epith Mucosa Acinus	Hemorrhage Inflammation Atrophy	Mild Acute, Mild Mild
Pituitary Gland	Pars Distalis Pars Intermed Pars Distalis	Angiectasis Angiectasis Hyperplasia	Moderate Moderate Mild
Note: ANGIECTASIS	TGLs = 4-1		
Note: ANGIECTASIS	TGLs = 4-1		
Preputial Gland		Inflammation	Chronic Active, Moderate
Spleen		Hematopoietic Cell Proliferation Leukemia Mononuclear Pigmentation	Minimal Mild
Stomach	Glandular, Mucosa Forestomach	Dilatation Inflammation	Mild Chronic, Mild
[ Inflammation TGLS = 5-6+6.1 ]			
Testes	Bilateral, Interstit Cell Interstit Cell	Adenoma Hyperplasia	Mild
Note: ADENOMA	TGLs = 3-5.1		
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16702

TRT#: 2

SEX: Male

DAY ON TEST: 577

DOSE: 600 PPM

DISP: Dead

HISTO: 16702

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Congestion	Moderate
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	[ Adenoma TGLS = 3-1 ]		
Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Mild
Testes	Interstit Cell	Hyperplasia	Mild
		Mineralization	Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

---

**ANIMAL ID:** 16702

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 577

**DOSE:** 600 PPM

**DISP:** Dead

**HISTO:** 16702

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

Animal Note: CAUSE OF DEATH UNKNOWN

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16703

TRT#: 2

SEX: Male

DAY ON TEST: 711

DOSE: 600 PPM

DISP: Dead

HISTO: 16703

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Salivary Glands	Skin
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Minimal
Bone Marrow		Leukemia Mononuclear	
	Heart	Cardiomyopathy	Chronic, Moderate
Kidney	Atrium	Leukemia Mononuclear	
	Transit Epithe	Thrombosis	
		Carcinoma	
		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Minimal
Note: TRANSITIONAL CELL CA.--CAUSE OF DEATH			
Note: CARCINOMA TGLs = 9-15			
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH			
Lung		Carcinoma	Metastatic (Kidney)
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Note: METASTATIC CARCINOMA--CAUSE OF DEATH			
Note: CARCINOMA TGLs = 5-4			
Lymph Node	Renal	Carcinoma	Metastatic (Kidney)

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16703

TRT#: 2

SEX: Male

DAY ON TEST: 711

DOSE: 600 PPM

DISP: Dead

HISTO: 16703

ORGAN AND ACCOUNTABLE SITE STATUS

			Congestion	Moderate
		Mandibular	Leukemia Mononuclear	
Note: CARCINOMA	TGLs = 2,3-15.1			
Mammary Gland		Acinus	Ectasia	Mild
		Duct	Ectasia	Moderate
Nose		Nasolacrim Dct	Degeneration	Mild
		Olfactory Epi	Degeneration	Moderate
		Respirat Epith	Degeneration	Moderate
Pituitary Gland		Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-1 ]				
Preputial Gland			Inflammation	Chronic Active, Mild
Prostate			Inflammation	Acute, Mild
Spleen			Hematopoietic Cell Proliferation	Mild
			Leukemia Mononuclear	
			Pigmentation	Minimal
Note: LEUKEMIA MONUC	TGLs = 4-12			
Stomach		Glandular, Mucosa	Erosion	Mild
		Forestomach	Ulcer	Moderate
Note: EROSION	TGLs = 8-6			
Note: ULCER--BLOCK 6				
Testes		Interstit Cell	Adenoma	
		Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 7-5.1			
Thymus			Carcinoma	Metastatic (Kidney)
Note: CARCINOMA	TGLs = 6-3			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16704

TRT#: 2

SEX: Male

DAY ON TEST: 711

DOSE: 600 PPM

DISP: Dead

HISTO: 16704

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Pancreas	Parathyroid Gland	Prostate
Salivary Glands	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Intestine Large	Rectum	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Preputial Gland		Inflammation	Chronic Active, Mild
Skin		Abscess	Moderate

Note: ABSCESS--PERIANAL--BLOCK 6.1

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16704

**TRT#:** 2

**DOSE:** 600 PPM

**SEX:** Male

**DISP:** Dead

**DAY ON TEST:** 711

**HISTO:** 16704

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Thyroid Gland	Follicle	Adenoma	
Note: MEDULLARY PATTERN			

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**PRIMARY CAUSE OF DEATH**

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Animal Note: CAUSE OF DEATH UNKNOWN

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16705

TRT#: 2

SEX: Male

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16705

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Mammary Gland	Parathyroid Gland	Prostate	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Rectum	Ulcer	Moderate
Islets, Pancreatic		Adenoma	
Kidney	Renal Tubule	Cyst	
	Renal Tubule	Nephropathy	Chronic, Moderate
		Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 4-12		
Note: CYST	TGLs = 5-12+15		
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Congestion	Moderate
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

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**ANIMAL ID:** 16705

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16705

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Moderate
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
		Atrophy	Moderate
	Interstit Cell	Hyperplasia	Mild

Note: ADENOMA TGLs = 1,2-5.1

[ Atrophy TGLS = 3-5.1 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16706

TRT#: 2

SEX: Male

DAY ON TEST: 670

DOSE: 600 PPM

DISP: Moribund

HISTO: 16706

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Prostate	Salivary Glands	Thyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
		Myelofibrosis	Mild
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Moderate
Liver		Hyperplasia	Moderate
	Bile Duct	Inflammation	Chronic, Mild
	Portal	Leukemia Mononuclear	
Lung		Leukemia Mononuclear	
	Arteriole	Mineralization	Minimal
Lymph Node	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Olfactory Epi	Erosion	Moderate

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16706

TRT#: 2

SEX: Male

DAY ON TEST: 670

DOSE: 600 PPM

DISP: Moribund

HISTO: 16706

ORGAN AND ACCOUNTABLE SITE STATUS

	Respirat Epith	Erosion	Mild
	Lumen	Foreign Body	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Marked
	Respirat Epith	Metaplasia	Squamous, Mild
Pancreas	Acinus	Atrophy	Mild
		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 4-1		
Preputial Gland		Inflammation	Chronic, Mild
Skin	Hair Follicle	Inflammation	Chronic, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
[ Hematopoietic Cell Proliferation TGLS = 1-12 ]			
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	
	Glandular, Mucosa	Ulcer	Marked
Note: ULCER	TGLs = 5-15+6		
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Thymus		Leukemia Mononuclear	
Trachea		Inflammation	Acute, Mild
		Leukemia Mononuclear	
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16707

TRT#: 2

SEX: Male

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16707

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Parathyroid Gland	Skin	Stomach - Forestomach	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Colon	Parasite Metazoan	
Islets, Pancreatic		Hyperplasia	Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic, Minimal
Lymph Node	Mandibular	Congestion	Moderate
	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N.--NORMAL			
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
	Acinus	Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Angiectasis	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16707

TRT#: 2

SEX: Male

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16707

ORGAN AND ACCOUNTABLE SITE STATUS

	Pars Distalis	Hyperplasia	Mild
Note: ANGIECTASIS	TGLs = 3-1		
Note: HYPERPLASIA	TGLs = 3-1		
Preputial Gland		Inflammation	Chronic Active, Marked
Prostate		Hyperplasia	Mild
Salivary Glands		Inflammation	Chronic, Moderate
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 1,2-5.1		
Thymus		Congestion	Mild
		Hyperplasia	Lymphoid, Mild
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16708

TRT#: 2

SEX: Male

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16708

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Mammary Gland	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Brain	Cerebrum	Astrocytoma Malignant	
Note: RECUT NONCONTRIBUTORY			
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 4-12			
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N.--NORMAL			
Nose	Olfactory Epi	Degeneration	Mild
	Lumen	Hemorrhage	Mild
Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Intermed	Cyst	
	Pars Distalis	Hyperplasia	Moderate
Preputial Gland		Inflammation	Chronic, Marked

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16708

TRT#: 2

SEX: Male

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16708

ORGAN AND ACCOUNTABLE SITE STATUS

Prostate		Inflammation	Chronic, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 1,2-5.1		
Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16709

TRT#: 2

SEX: Male

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16709

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Pancreas	Prostate
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Medulla	Hyperplasia	Moderate
	Cortex	Pigmentation	Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Moderate
Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

---

**ANIMAL ID:** 16709

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 733

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16709

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Interstit Cell

Hyperplasia

Mild

Note: ADENOMA TGLs = 1-5.1

Thyroid Gland

C Cell

Hyperplasia

Mild

---

PRIMARY CAUSE OF DEATH

-

---

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16710

TRT#: 2

SEX: Male

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16710

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Minimal
Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Moderate
Prostate		Inflammation	Acute, Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:51

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

**Lab:** IRDC

**ANIMAL ID:** 16710

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16710

**ORGAN AND ACCOUNTABLE SITE STATUS**

Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 1,2-5.1		
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16711

TRT#: 2

SEX: Male

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16711

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Prostate	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hypertrophy	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Intestine Large	Rectum	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver [ Nephropathy TGLS = 1,4-12 ]		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Lung Note: ANGIECTASIS TGLs = 3-11	Alveolar Epith	Hyperplasia	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lung Note: INFILTRAT CELL TGLs = 11-15.1+4 Note: HYPERPLASIA TGLs = 11-4			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16711

TRT#: 2

SEX: Male

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16711

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mandibular	Hyperplasia	Lymphoid, Moderate
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 9-1			
Preputial Gland		Inflammation	Chronic, Mild
Seminal Vesicle		Dilatation	Moderate
[ Dilatation TGLS = 8-15 ]			
Spleen		Hematopoietic Cell Proliferation	Minimal
		Leukemia Mononuclear	
		Pigmentation	Minimal
Note: LEUKEMIA MONUC TGLs = 2-12			
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 5,6-5.1			
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:51

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16712

TRT#: 2

SEX: Male

DAY ON TEST: 698

DOSE: 600 PPM

DISP: Moribund

HISTO: 16712

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Parathyroid Gland	Salivary Glands	Skin	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Bilateral, Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Brain		Necrosis	Mild
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
	Atrium	Thrombosis	
[ Thrombosis TGLS = 4-9 ]			
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: PIGMENT TGLs = 1-12			
Note: NEPHROPATHY--CAUSE OF DEATH			
Note: NEPHROPATHY TGLs = 1-12			
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 2-11			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16712

TRT#: 2

SEX: Male

DAY ON TEST: 698

DOSE: 600 PPM

DISP: Moribund

HISTO: 16712

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
Pancreas	Acinus	Atrophy	Marked
Pituitary Gland	Pars Distalis	Cyst	
	Pars Intermed	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic, Moderate
Prostate		Inflammation	Chronic Active, Mild
Spleen		Leukemia Mononuclear	
		Pigmentation	Mild
Note: LEUKEMIA--CAUSE OF DEATH			
Stomach	Forestomach	Inflammation	Acute, Mild
	Glandular, Mucosa	Ulcer	Moderate
Note: ULCER TGLs = 5-15			
Testes		Atrophy	Marked
	Interstitial Cell	Hyperplasia	Mild
		Mineralization	Moderate
Note: ATROPHY TGLs = 3-5.1			
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Mild
Trachea		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16713

TRT#: 2

SEX: Male

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16713

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Salivary Glands	Thyroid Gland
Trachea			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Hypertrophy	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Intestine Large	Rectum	Parasite Metazoan	
Kidney		Leukemia Mononuclear	
	Renal Tubule	Nephropathy	Chronic, Moderate
		Pigmentation	Mild
Note: LEUKEMIA MONUC			TGLs = 5-12
Note: NEPHROPATHY			TGLs = 5-12
Liver		Developmental Malformation	
	Bile Duct	Hyperplasia	Marked
	Portal	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
		[ Developmental Malformation TGLS = 4-15 ]	
		[ Hyperplasia TGLS = 1-15+11 ]	
		[ Inflammation TGLS = 1-15+11 ]	
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16713

TRT#: 2

SEX: Male

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16713

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC TGLs = 8-4		Leukemia Mononuclear	
Lymph Node	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Parathyroid Gland		Hypertrophy	Mild
Note: HYPERTROPHY TGLs = 7-2			
Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Mild
	Pars Distalis	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Leukemia Mononuclear	
Skin		Cyst Epithelial Inclusion	
Note: RECUT NONCONTRIBUTORY			
Note: CYST EPITH INC TGLs = 3-15.1			
Spleen		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 2-12			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Leukemia Mononuclear	
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 6-5.1			
Thymus		Leukemia Mononuclear	
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16714

TRT#: 2

SEX: Male

DAY ON TEST: 698

DOSE: 600 PPM

DISP: Moribund

HISTO: 16714

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Pancreas	Parathyroid Gland	Prostate
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Hypertrophy	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
Heart	Cortex	Pigmentation	Mild
		Cardiomyopathy	Chronic, Moderate
		Leukemia Mononuclear	
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Lymph Node	Arteriole	Mineralization	Mild
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal

Note: LEUKEMIA MONUC TGLs = 2-11+15

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16714

TRT#: 2

SEX: Male

DAY ON TEST: 698

DOSE: 600 PPM

DISP: Moribund

HISTO: 16714

ORGAN AND ACCOUNTABLE SITE STATUS

Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic, Mild
Spleen		Hemangiosarcoma	
		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Note: LEUKEMIA--CAUSE OF DEATH [ Hemangiosarcoma TGLS = 1-15.1 ] [ Hematopoietic Cell Proliferation TGLS = 1-12+15.1 ]			
Stomach	Glandular, Mucosa	Erosion	Minimal
Note: EROSION TGLs = 3-6			
Testes	Interstit Cell	Hyperplasia	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16715

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16715

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Thyroid Gland	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Cortex	Pigmentation	Mild
Bone	Femur	Fibrous Osteodystrophy	
Heart		Cardiomyopathy	Chronic, Moderate
Intestine Large	Cecum	Erosion	Minimal
	Cecum	Hemorrhage	Moderate
Note: HEMORRHAGE TGLs = 7-15			
Note: EROSION TGLs = 7-15.3			
Note: EROSION SHOWN IN RECUT--SLIDE 15.3			
Islets, Pancreatic		Hyperplasia	Minimal
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 5-12			
Liver		Focal Cellular Change	
		Hepatocellular Carcinoma	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
Note: HEPATOCLR CARC TGLs = 4-15.1			
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Moderate
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16715

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16715

ORGAN AND ACCOUNTABLE SITE STATUS

Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 6-1		
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Acute, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: HYPERPLASIA	TGLs = 3-5.1		
Note: ADENOMA	TGLs = 1,2-5.1		
Thymus		Hyperplasia	Lymphoid, Mild
Trachea		Inflammation	Chronic Active, Mild

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16717

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16717

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Minimal
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 2-1		
Preputial Gland		Inflammation	Chronic, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16717

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16717

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Prostate		Inflammation	Acute, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 1-5.1		
Thyroid Gland	C Cell	Adenoma	

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16718

TRT#: 2

SEX: Male

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16718

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Prostate	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hypertrophy	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Brain		Compression	
		Hemorrhage	Mild
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
	Note: NEPHROPATHY TGLs = 5-12		
Liver		Focal Cellular Change	
		Hemorrhage	Mild
	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
		Necrosis	Moderate
[ Hyperplasia TGLS = 2-11 ]			
[ Inflammation TGLS = 2-11 ]			
[ Necrosis TGLS = 1-11 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16718

TRT#: 2

SEX: Male

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16718

ORGAN AND ACCOUNTABLE SITE STATUS

	Peribronchiolr	Infiltration Cellular Inflammation Leukemia Mononuclear	Lymphocyte, Mild Chronic Active, Mild
	Arteriole	Mineralization	Mild
Note: INFILTRAT CELL TGLs = 7-4 Note: INFLAMMATION TGLs = 7-4			
Lymph Node	Mandibular Mesenteric	Hyperplasia Leukemia Mononuclear	Lymphoid, Moderate
Mammary Gland	Acinus	Ectasia	Marked
Nose	Olfactory Epi Respirat Epith	Degeneration Degeneration	Moderate Mild
Pancreas	Mucosa Acinus	Inflammation Atrophy	Acute, Mild Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 6-1			
Preputial Gland		Inflammation	Chronic, Mild
Spleen		Fibrosis Leukemia Mononuclear Pigmentation	Moderate Minimal
Note: LEUKEMIA MONUC TGLs = 3-12			
Testes	Bilateral, Interstit Cell Interstit Cell	Adenoma Hyperplasia	Mild
Note: ADENOMA TGLs = 4-5.1			
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16719

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16719

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Bone Marrow	Brain
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 - Glandular
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Mild
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Islets, Pancreatic		Hyperplasia	Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
	[ Nephropathy TGLS = 1-12 ]		
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

**ANIMAL ID:** 16719

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16719

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Acinus	Hyperplasia	Mild
Preputial Gland	Pars Distalis	Hyperplasia	Moderate
Prostate		Inflammation	Chronic, Mild
Spleen		Inflammation	Chronic Active, Mild
		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Forestomach	Inflammation	Chronic Active, Mild
Note: INFLAMMATION TGLs = 4-6+6.1			
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 2,3-5.1			
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16720

TRT#: 2

SEX: Male

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16720

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Jejunum	Islets, Pancreatic	Mammary Gland
Parathyroid Gland	Prostate	Salivary Glands	Skin
Thyroid Gland			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Medulla	Hyperplasia	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Minimal
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLs = 2-9 ]			
Intestine Small	Ileum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
	Renal Tubule	Nephropathy	Chronic, Moderate
		Pigmentation	Mild
Note: LEUKEMIA MONUC TGLs = 7-12			
Note: NEPHROPATHY TGLs = 7-12			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 3-11			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Note: LEUKEMIA MONUC TGLs = 4-4			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16720

TRT#: 2

SEX: Male

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16720

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 5-15			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
	Pars Distalis	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 6-12			
Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Granuloma	Mild
	Forestomach	Leukemia Mononuclear	
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 8-5.1			
Thymus		Leukemia Mononuclear	
Trachea		Inflammation	Chronic Active, Mild
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16722

TRT#: 2

SEX: Male

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Dead

HISTO: 16722

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Skin	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Rectum	Erosion	Moderate
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Minimal
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Congestion	Marked
	Arteriole	Infiltration Cellular	Lymphocyte, Mild
		Mineralization	Mild
Note: CONGESTION	TGLs = 3-4		
Lymph Node	Mandibular	Congestion	Mild
	Mediastinal	Congestion	Moderate
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Note: CONGESTION	TGLs = 4-15		
Mammary Gland	Acinus	Ectasia	Minimal
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 5-1		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16722

TRT#: 2

SEX: Male

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Dead

HISTO: 16722

ORGAN AND ACCOUNTABLE SITE STATUS

Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Acute, Mild
Salivary Glands		Infiltration Cellular	Lymphocyte, Minimal
Spleen		Pigmentation	Moderate
Stomach	Glandular, Mucosa	Erosion	Mild
	Forestomach	Inflammation	Acute, Minimal
Note: EROSION	TGLs = 6-6.1		
Testes	Bilateral, Interstit Cell	Adenoma	
		Atrophy	Mild
	Interstit Cell	Hyperplasia	Mild
Note: ATROPHY	TGLs = 2-5.1		
Note: ADENOMA	TGLs = 1-5.1		
Thymus		Congestion	Mild

PRIMARY CAUSE OF DEATH

-

Animal Note: CAUSE OF DEATH UNKNOWN

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16723

TRT#: 2

SEX: Male

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16723

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Minimal
Intestine Large	Rectum	Ulcer	Moderate
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Angiectasis	Mild
		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Minimal
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Moderate
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:52  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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**ANIMAL ID:** 16723

**TRT#:** 2  
**DOSE:** 600 PPM

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 733  
**HISTO:** 16723

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA      TGLs = 1,2-5.1

Interstit Cell

Hyperplasia

Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16725

TRT#: 2

SEX: Male

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16725

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Salivary Glands	Skin	Stomach - Forestomach	Trachea

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Medulla	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Brain		Hemorrhage	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney	Renal Tubule	Hyperplasia	Marked
		Nephropathy	Chronic, Marked
		Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 2-12		
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Alveolar/Bronchiolar Carcinoma	
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Note: ALV BRON CARC	TGLs = 1-15		
Lymph Node	Mandibular	Congestion	Moderate
	Mediastinal	Congestion	Moderate
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mediastinal	Hyperplasia	Lymphoid, Moderate
Note: MEDIASTINAL L.N.--REGIONAL FOR ADENOCARCINOMA			

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16725

TRT#: 2

SEX: Male

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16725

ORGAN AND ACCOUNTABLE SITE STATUS

Mammary Gland	Acinus	Ectasia	Marked
	Duct	Ectasia	Marked
Nose	Olfactory Epi	Degeneration	Mild
	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Minimal
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Minimal
Parathyroid Gland		Hypertrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 5-1		
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Chronic Active, Marked
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Hemorrhage	Moderate
Note: HEMORRHAGE	TGLs = 6-15.2		
Testes		Atrophy	Mild
	Arteriole	Inflammation	Chronic, Marked
Note: ATROPHY	TGLs = 3-5.1		
Thyroid Gland	C Cell	Adenoma	
Urinary Bladder	Transit Epithe	Hyperplasia	Marked
		Inflammation	Chronic Active, Marked
Note: HYPERPLASIA	TGLs = 4-5		
Note: INFLAMMATION	TGLs = 4-5		
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16726

TRT#: 2

SEX: Male

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16726

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Trachea	Urinary Bladder

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
[ Nephropathy TGLS = 1-12 ]			
Liver		Angiectasis	Mild
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Duct	Ectasia	Minimal
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

**ANIMAL ID:** 16726

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16726

**ORGAN AND ACCOUNTABLE SITE STATUS**

Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic, Minimal
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 2,3-5.1		
Thymus		Hyperplasia	Lymphoid, Mild
Thyroid Gland	C Cell	Adenoma	
Note: ADENOMA	TGLs = 4-2		

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16728

TRT#: 2

SEX: Male

DAY ON TEST: 29

DOSE: 600 PPM

DISP: Dead

HISTO: 16728

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Blood Vessel	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
Mammary Gland	Nose	Parathyroid Gland	Pituitary Gland
Preputial Gland	Prostate	Salivary Glands	Skin
Stomach - Forestomach	Testes	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Heart		Cardiomyopathy	Chronic, Minimal
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mediastinal	Congestion	Marked
	Mesenteric	Congestion	Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Note: CONGESTION TGLs = 5-15.2			
Mesentery		Inflammation	Acute, Marked
[ Inflammation TGLS = 1-15.1 ]			
Pancreas		Inflammation	Acute, Moderate
Note: INFLAMMATION TGLs = 2-6.1			
Spleen		Fibrosis	Marked
		Hematopoietic Cell Proliferation	Moderate
Note: FIBROSIS TGLs = 3-12			
Stomach	Glandular, Mucosa	Erosion	Mild
Note: EROSION TGLs = 4-15			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16728

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 29

**DOSE:** 600 PPM

**DISP:** Dead

**HISTO:** 16728

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Animal Note: CAUSE OF DEATH UNKNOWN

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16729

TRT#: 2

SEX: Male

DAY ON TEST: 686

DOSE: 600 PPM

DISP: Moribund

HISTO: 16729

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Prostate	Salivary Glands
Skin	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Minimal
Bone Marrow		Leukemia Mononuclear	
Brain		Hemorrhage	Marked
		Leukemia Mononuclear	
Note: HEMORRHAGE	TGLs = 3-10		
Note: LEUKEMIA MONUC	TGLs = 3-10		
Heart		Cardiomyopathy	Chronic, Minimal
Intestine Small	Duodenum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
	Renal Tubule	Nephropathy	Chronic, Mild
		Pigmentation	Minimal
Note: LEUKEMIA--CAUSE OF DEATH			
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung		Hemorrhage	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Note: INFILTRAT CELL	TGLs = 2-4		
Note: LEUKEMIA MONUC	TGLs = 2-4		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16729

TRT#: 2

SEX: Male

DAY ON TEST: 686

DOSE: 600 PPM

DISP: Moribund

HISTO: 16729

ORGAN AND ACCOUNTABLE SITE STATUS

Note: HEMORRHAGE	TGLs = 2-4			
Lymph Node		Mandibular	Hyperplasia	Lymphoid, Mild
		Mesenteric	Leukemia Mononuclear	
Mammary Gland		Acinus	Ectasia	Mild
Nose		Olfactory Epi	Degeneration	Moderate
		Lumen	Hemorrhage	Minimal
		Mucosa	Inflammation	Acute, Mild
Pancreas			Leukemia Mononuclear	
Parathyroid Gland			Hyperplasia	Moderate
Pituitary Gland		Pars Distalis	Adenoma	
		Pars Intermed	Angiectasis	Moderate
Note: ANGIECTASIS	TGLs = 4-1			
Note: ADENOMA	TGLs = 4-1			
Preputial Gland			Inflammation	Chronic, Mild
Spleen			Hematopoietic Cell Proliferation	Mild
			Leukemia Mononuclear	
[ Hematopoietic Cell Proliferation TGLS = 1-12 ]				
Stomach		Glandular, Mucosa	Erosion	Mild
		Glandular, Mucosa	Inflammation	Acute, Moderate
		Forestomach	Ulcer	Moderate
Note: EROSION	TGLs = 5-6.1			
Note: INFLAMMATION	TGLs = 5-6.1			
Testes		Bilateral, Interstit Cell	Adenoma	
		Interstit Cell	Hyperplasia	Mild
Thyroid Gland		C Cell	Adenoma	
		Follicle	Ectasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16730

TRT#: 2

SEX: Male

DAY ON TEST: 713

DOSE: 600 PPM

DISP: Dead

HISTO: 16730

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Pancreas	Parathyroid Gland
Prostate	Salivary Glands	Stomach - Glandular	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Heart	Pericardium	Cardiomyopathy	Chronic, Moderate
	Atrium	Inflammation	Chronic, Moderate
		Thrombosis	
Note: INFLAMMATION	TGLs = 4-15.1+9		
Note: PERICARDIAL INFLAM.--CAUSE OF DEATH			
Kidney		Congestion	Moderate
		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Angiectasis	Mild
		Congestion	Moderate
	Bile Duct	Hyperplasia	Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Congestion	Marked
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
Preputial Gland		Inflammation	Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16730

TRT#: 2

SEX: Male

DAY ON TEST: 713

DOSE: 600 PPM

DISP: Dead

HISTO: 16730

ORGAN AND ACCOUNTABLE SITE STATUS

Skin	Subcut Tiss	Edema	Marked
	Subcut Tiss	Hemorrhage	Moderate
	[ Edema TGLS = 1-15 ]		
	[ Hemorrhage TGLS = 1-15 ]		
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Forestomach	Erosion	Moderate
	Forestomach	Hyperplasia	Squamous, Mild
	Forestomach	Ulcer	Marked
	Note: HYPERPLASIA TGLs = 5-15.2		
	Note: EROSION TGLs = 5-6		
	Note: ULCER TGLs = 5-15.2+6		
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
	Note: ADENOMA TGLs = 2-5.1		
Thymus		Hyperplasia	Lymphoid, Moderate
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16732

TRT#: 2

SEX: Male

DAY ON TEST: 614

DOSE: 600 PPM

DISP: Natural Death

HISTO: 16732

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Epididymis	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Skin	

MISSING

Mammary Gland	Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Esophagus		Leukemia Mononuclear	
Heart		Leukemia Mononuclear	
Kidney	Pelvis	Inflammation	Acute, Moderate
		Leukemia Mononuclear	
		Nephropathy	Chronic, Moderate
		Pigmentation	Mild
		Hyperplasia	Moderate
Liver	Renal Tubule	Inflammation	Chronic, Moderate
	Bile Duct	Leukemia Mononuclear	
	Portal	Leukemia Mononuclear	
Lung	Peribronchiolr	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
		Mineralization	Mild
		Arteriole	
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Moderate
		Leukemia Mononuclear	
		Leukemia Mononuclear	
Mesentery	Mesenteric	Leukemia Mononuclear	
		Leukemia Mononuclear	

Note: INFLAMMATION TGLs = 3-15+4

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16732

TRT#: 2

SEX: Male

DAY ON TEST: 614

DOSE: 600 PPM

DISP: Natural Death

HISTO: 16732

ORGAN AND ACCOUNTABLE SITE STATUS

Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Acute, Moderate
Salivary Glands		Leukemia Mononuclear	
Spleen		Leukemia Mononuclear	
		Pigmentation	Minimal
Note: LEUKEMIA--CAUSE OF DEATH [ Pigmentation TGLS = 1-12 ]			
Stomach	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	
	Forestomach	Ulcer	Marked
Testes		Atrophy	Minimal
	Interstit Cell	Hyperplasia	Mild
Note: ATROPHY TGLs = 2-5.1			
Thymus		Leukemia Mononuclear	
Thyroid Gland		Leukemia Mononuclear	
Trachea		Leukemia Mononuclear	
Urinary Bladder		Calculus Micro Observation Only	
		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16735

TRT#: 2

SEX: Male

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16735

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Parathyroid Gland	Prostate	Salivary Glands
Skin	Stomach - Forestomach	Thyroid Gland	Urinary Bladder

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex Medulla Cortex	Degeneration Hyperplasia Pigmentation	Fatty, Minimal Moderate Mild
Heart		Cardiomyopathy Leukemia Mononuclear	Chronic, Mild
Kidney	Renal Tubule  Renal Tubule	Cyst Nephropathy Pigmentation	Chronic, Marked Mild
Note: NEPHROPATHY TGLs = 4-12			
Liver	Bile Duct Bile Duct Bile Duct Portal	Dilatation Hyperplasia Inflammation Inflammation Leukemia Mononuclear	Marked Moderate Chronic, Marked Chronic, Mild
Note: INFLAMMATION & DILATATION--EXTRAHEPATIC BILE DUCT [ Inflammation TGLS = 3-15 ]			
Lung	Alveolus  Arteriole	Infiltration Cellular Infiltration Cellular Mineralization	Histiocyte, Mild Lymphocyte, Mild Mild
[ Infiltration Cellular TGLS = 1-4 ]			
Lymph Node	Mandibular Mesenteric	Hyperplasia Leukemia Mononuclear	Lymphoid, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16735

TRT#: 2

SEX: Male

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16735

ORGAN AND ACCOUNTABLE SITE STATUS

Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Minimal
	Mucosa	Inflammation	Acute, Moderate
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Note: LEUKEMIA MONUC TGLs = 2-12			
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 5,6-5.1			
Trachea		Inflammation	Chronic Active, Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16737

TRT#: 2

SEX: Male

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16737

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Pancreas	Parathyroid Gland	Pituitary Gland
Prostate	Salivary Glands	Seminal Vesicle	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Bone	Femur	Fibrous Osteodystrophy	
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Liver		Hematopoietic Cell Proliferation	Minimal
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Moderate
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Moderate
Preputial Gland		Inflammation	Chronic Active, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16737

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16737

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach

Glandular, Mucosa

Dilatation

Mild

Testes

Bilateral, Interstit Cell

Adenoma

Interstit Cell

Hyperplasia

Mild

Note: ADENOMA      TGLs = 2,3-5.1

Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16738

TRT#: 2

SEX: Male

DAY ON TEST: 722

DOSE: 600 PPM

DISP: Dead

HISTO: 16738

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Islets, Pancreatic
Parathyroid Gland	Prostate	Salivary Glands	Skin
Thyroid Gland	Trachea		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Minimal
Note: PHEOCHROM NOS	TGLs = 3-1		
Bone Marrow		Leukemia Mononuclear	
Brain		Hemorrhage	Marked
		Leukemia Mononuclear	
Note: HEMORRHAGE	TGLs = 7-10		
Note: LEUKEMIA MONUC	TGLs = 7-10		
Heart		Cardiomyopathy	Chronic, Mild
		Hemorrhage	Mild
		Leukemia Mononuclear	
	Atrium	Thrombosis	
Intestine Small	Duodenum	Leukemia Mononuclear	
	Ileum	Leukemia Mononuclear	
	Jejunum	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 9-6		
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Minimal
Liver	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16738

TRT#: 2

SEX: Male

DAY ON TEST: 722

DOSE: 600 PPM

DISP: Dead

HISTO: 16738

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC Lung	TGLs = 2-12		Hemorrhage Infiltration Cellular Leukemia Mononuclear	Mild Lymphocyte, Mild
Note: LEUKEMIA MONUC Lymph Node	TGLs = 6-4	Mandibular Mesenteric	Leukemia Mononuclear Leukemia Mononuclear	
Mammary Gland		Acinus	Ectasia	Moderate
Nose		Olfactory Epi Respirat Epith	Degeneration Degeneration	Mild Minimal
Pancreas		Acinus	Atrophy Leukemia Mononuclear	Mild
Pituitary Gland		Pars Distalis Pars Distalis	Hyperplasia Leukemia Mononuclear	Moderate
Preputial Gland			Inflammation Leukemia Mononuclear	Chronic Active, Mild
Spleen			Hematopoietic Cell Proliferation Leukemia Mononuclear	Minimal
Note: LEUKEMIA MONUC Stomach	TGLs = 1-12	Glandular, Mucosa Forestomach Glandular Glandular, Mucosa	Erosion Leukemia Mononuclear Leukemia Mononuclear Ulcer	Moderate  Marked
Note: EROSION Note: ULCER Testes	TGLs = 8-6 TGLs = 8-6	Interstit Cell Interstit Cell	Adenoma Hyperplasia Leukemia Mononuclear	Mild
Note: ADENOMA Thymus Urinary Bladder	TGLs = 5-5.1		Leukemia Mononuclear Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16738

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:** 722

**DOSE:** 600 PPM

**DISP:** Dead

**HISTO:** 16738

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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PRIMARY CAUSE OF DEATH

-

Animal Note: LEUKEMIA--CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16739

TRT#: 2

SEX: Male

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16739

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Salivary Glands	Seminal Vesicle
Skin	Stomach - Forestomach	Trachea	Urinary Bladder

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Note: PHEOCHROM NOS	TGLs = 8-1		
Bone	Cranium	Abscess	Marked
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 4-12		
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Hemorrhage	Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Note: HEMORRHAGE	TGLs = 3-4		
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16739

TRT#: 2

SEX: Male

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16739

ORGAN AND ACCOUNTABLE SITE STATUS

Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 6-1			
Preputial Gland		Adenoma	
Note: [ ADENOMA ] TGLs = 1-15			
Prostate		Inflammation	Chronic Active, Moderate
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
	Arteriole	Inflammation	Chronic, Mild
[ Adenoma TGLS = 2-5.1 ]			
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16800

TRT#: 3

SEX: Male

DAY ON TEST: 733

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16800

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Pituitary Gland
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Minimal
Liver		Developmental Malformation	
	Serosa	Fibrosis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
	[ Developmental Malformation TGLS = 1-15 ]		
	[ Fibrosis TGLS = 4-15 ]		
Lung		Hemorrhage	Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Marked
	Respirat Epith	Degeneration	Moderate
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16800

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 733

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16800

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Chronic Active, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
Note: ADENOMA	TGLs = 2-5.1, 3-5.1		
Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16801

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16801

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Mammary Gland	Pancreas	Parathyroid Gland	Prostate
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Thymus	Trachea		

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Minimal
Intestine Large	Rectum	Parasite Metazoan	
Islets, Pancreatic		Hyperplasia	Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Minimal
Liver		Fatty Change	Minimal
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Hemorrhage	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic, Minimal
	Alveolus	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Respirat Epith	Erosion	Mild
	Lumen	Foreign Body	Mild
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

**ANIMAL ID:** 16801

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16801

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
Preputial Gland		Inflammation	Chronic, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
Note: ADENOMA	TGLs = 1-5.1+15, 2-5.1+15		
Thyroid Gland		Ultimobranchial Cyst	
Urinary Bladder	Transit Epithe	Papilloma	
[ Papilloma TGLS = 3-15.1 ]			

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16802

TRT#: 3

SEX: Male

DAY ON TEST: 691

DOSE: 1200 PPM

DISP: Dead

HISTO: 16802

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Bone Marrow	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Pituitary Gland	Prostate	Skin	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Blood Vessel	Aorta	Mineralization	Moderate
Bone	Cranium	Fibrous Osteodystrophy	Marked
	Femur	Fibrous Osteodystrophy	Moderate
Heart		Cardiomyopathy	Chronic, Marked
		Mineralization	Moderate
Intestine Large	Rectum	Inflammation	Acute, Moderate
Kidney		Mineralization	Moderate
	Renal Tubule	Nephropathy	Chronic, Marked
		Pigmentation	Mild
Note: NEPHROPATHY--CAUSE OF DEATH [ Nephropathy TGLS = 1-12 ]			
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Congestion	Moderate
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Bronchiole	Inflammation	Acute, Mild
	Arteriole	Mineralization	Mild
Note: CONGESTION TGLs = 4-4			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Mild
Nose	Lumen	Foreign Body	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16802

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 691

**DOSE:** 1200 PPM

**DISP:** Dead

**HISTO:** 16802

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Mucosa Acinus Arteriole	Inflammation Atrophy Mineralization	Acute, Moderate Minimal Mild
Preputial Gland		Inflammation	Chronic Active, Moderate
Salivary Glands	Arteriole	Mineralization	Mild
Spleen		Hematopoietic Cell Proliferation Pigmentation	Minimal Moderate
Stomach	Glandular, Mucosa Forestomach Glandular	Erosion Mineralization Mineralization	Mild Moderate Moderate
Note: EROSION	TGLs = 5-15		
Testes	Bilateral, Interstit Cell	Adenoma	
Note: ADENOMA	TGLs = 2-5.1		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16803

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16803

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas	Parathyroid Gland
Prostate	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	Urinary Bladder

MISSING

Mammary Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Minimal
Liver		Angiectasis	Mild
		Fatty Change	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
[ Fatty Change TGLS = 1-11 ]			
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Moderate
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16803

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16803

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA      TGLs = 3-1

Preputial Gland

Inflammation

Chronic, Mild

Spleen

Hematopoietic Cell Proliferation

Mild

Testes

Interstit Cell

Pigmentation

Mild

Thyroid Gland

C Cell

Hyperplasia

Minimal

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16805

TRT#: 3

SEX: Male

DAY ON TEST: 722

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16805

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Parathyroid Gland	Salivary Glands	Skin
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY--CAUSE OF DEATH			
Liver		Fatty Change	Minimal
	Bile Duct	Hyperplasia	Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 4-1			
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Acute, Mild
Spleen		Fibrosis	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:52  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16805	<b>TRT#:</b> 3 <b>DOSE:</b> 1200 PPM	<b>SEX:</b> Male <b>DISP:</b> Moribund	<b>DAY ON TEST:</b> 722 <b>HISTO:</b> 16805
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Glandular, Mucosa Glandular, Mucosa Forestomach Glandular	Hematopoietic Cell Proliferation Pigmentation Dilatation Erosion Inflammation Inflammation Ulcer	Moderate Mild Mild Mild Chronic Active, Marked Chronic Active, Marked Marked
[ Inflammation TGLS = 1-6+15 ] [ Ulcer TGLS = 1-6 ]			
Testes	Bilateral, Interstit Cell Interstit Cell	Adenoma Hyperplasia	Mild
Note: ADENOMA TGLs = 3-5.1			

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16806

TRT#: 3

SEX: Male

DAY ON TEST: 540

DOSE: 1200 PPM

DISP: Dead

HISTO: 16806

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Blood	Blood Vessel	Bone
Bone Marrow	Brain	Epididymis	Esophagus
Heart	Islets, Pancreatic	Kidney	Mammary Gland
Pancreas	Parathyroid Gland	Pituitary Gland	Preputial Gland
Prostate	Salivary Glands	Skin	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

**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	Nose	Stomach - Forestomach
Stomach - Glandular			

**OBSERVATIONS**

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node			
Note: MESENTERIC L.N. NORMAL			
Spleen		Pigmentation	Mild
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild

PRIMARY CAUSE OF DEATH

-

Animal Note: CAUSE OF DEATH UNKNOWN

Animal Note: CAUSE OF DEATH UNKNOWN

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16807

TRT#: 3

SEX: Male

DAY ON TEST: 543

DOSE: 1200 PPM

DISP: Dead

HISTO: 16807

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Nose
Parathyroid Gland	Prostate	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thyroid Gland	Trachea
Urinary Bladder			

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
		Myelofibrosis	Mild
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Moderate
		Leukemia Mononuclear	
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 3-12			
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 2-11			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH			

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

**ANIMAL ID:** 16807

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 543

**DOSE:** 1200 PPM

**DISP:** Dead

**HISTO:** 16807

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mammary Gland	Acinus	Ectasia	Moderate
	Duct	Ectasia	Moderate
Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 4-1		
Preputial Gland		Inflammation	Chronic Active, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
[ Hematopoietic Cell Proliferation TGLS = 1-12 ]			
Testes	Interstit Cell	Hyperplasia	Mild
Thymus		Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16808

TRT#: 3

SEX: Male

DAY ON TEST: 596

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16808

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Prostate	Salivary Glands	Skin	Trachea

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
		Cardiomyopathy	Chronic, Moderate
Heart		Leukemia Mononuclear	
Intestine Large	Atrium	Thrombosis	Moderate
	Rectum	Ulcer	Moderate
Kidney		Nephropathy	Chronic, Moderate
		Pigmentation	Mild
Liver	Renal Tubule	Hyperplasia	Moderate
	Bile Duct	Inflammation	Chronic, Mild
	Portal	Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH [ Leukemia Mononuclear TGLS = 1-11 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Lymph Node	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

**ANIMAL ID:** 16808

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 596

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16808

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic, Mild
Spleen		Fibrosis	Moderate
		Leukemia Mononuclear	
Stomach	Glandular, Mucosa	Erosion	Mild
	Glandular	Leukemia Mononuclear	
	Forestomach	Ulcer	Moderate
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16809

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16809

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Mammary Gland
Parathyroid Gland	Prostate	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Mild
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Moderate
Intestine Large	Rectum	Parasite Metazoan	
Islets, Pancreatic		Hyperplasia	Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Minimal
Note: NEPHROPATHY TGLs = 2-12			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Minimal
[ Infiltration Cellular TGLS = 1-4 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Minimal
	Mucosa	Inflammation	Acute, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

**ANIMAL ID:** 16809

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16809

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 3-5.1		
Thyroid Gland	C Cell	Hyperplasia	Minimal
		Ultimobranchial Cyst	

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16810

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16810

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Bone Marrow	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Mammary Gland	Prostate	Skin	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	
Heart		Cardiomyopathy	Chronic, Moderate
	Intestine Large	Parasite Metazoan	
Kidney	Rectum	Adenoma	Chronic, Marked
	Renal Tubule	Cyst	
	Renal Tubule	Nephropathy	
	Renal Tubule	Pigmentation	
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	
	Portal	Inflammation	
		Leukemia Mononuclear	Chronic, Minimal
Lung	Alveolar Epith	Hyperplasia	
	Alveolus	Infiltration Cellular	
		Infiltration Cellular	
		Leukemia Mononuclear	

Note: CYST TGLs = 7-15.2

Note: NEPHROPATHY TGLs = 3-12

Note: ANGIECTASIS TGLs = 4-15

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16810

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16810

ORGAN AND ACCOUNTABLE SITE STATUS

Note: HYPERPLASIA TGLs = 6-15.1

Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Erosion	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic, Mild
Salivary Glands	Acinus	Atrophy	Minimal
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Minimal

Note: LEUKEMIA MONUC TGLs = 2-12

Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild

Note: ADENOMA TGLs = 5-5.1

Thyroid Gland	C Cell	Adenoma	
	Follicle	Ectasia	Moderate

[ Adenoma TGLS = 1-2 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16811

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16811

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Thymus	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Moderate
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 6-12		
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: INFLAMMATION	TGLs = 5-11		
Lung		Congestion	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Note: CONGESTION	TGLs = 3-4		
	[ Congestion TGLS = 3-4 ]		
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mesentery	Arteriole	Inflammation	Chronic, Mild
Note: LESION IN BL.6			
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Moderate

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16811

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16811

ORGAN AND ACCOUNTABLE SITE STATUS

	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
	Olfactory Epi	Metaplasia	Squamous, Mild
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 7-1			
Preputial Gland		Inflammation	Chronic Active, Moderate
Prostate		Hyperplasia	Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Note: LEUKEMIA MONUC TGLs = 4-12			
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 1-5.1			
Note: HYPERPLASIA TGLs = 1-5.1			
[ Hyperplasia TGLs = 2-5.1 ]			
Thyroid Gland	C Cell	Hyperplasia	Mild
Trachea		Inflammation	Chronic Active, Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16812

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16812

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Pancreas	Parathyroid Gland	Pituitary Gland
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Mild
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 5-12		
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 2-11		
Lung	Alveolar Epith	Hyperplasia	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Arteriole	Mineralization	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Minimal
	Nose	Olfactory Epi	Moderate
	Respirat Epith	Degeneration	Moderate
	Olfactory Epi	Erosion	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16812

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16812

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Lumen

Hemorrhage

Minimal

Mucosa

Inflammation

Acute, Mild

Preputial Gland

Inflammation

Chronic Active, Moderate

Prostate

Hyperplasia

Minimal

Spleen

Hematopoietic Cell Proliferation

Mild

Leukemia Mononuclear

[ Hematopoietic Cell Proliferation TGLS = 1-12 ]

Testes

Bilateral, Interstit Cell

Adenoma

Interstit Cell

Hyperplasia

Mild

Note: ADENOMA TGLs = 3,4-5.1

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PRIMARY CAUSE OF DEATH

-

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Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16813

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16813

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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
Prostate	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Eye		Cataract	Moderate
	Sclera	Mineralization	Mild
Note: CATARACT	TGLs = 4-15		
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Minimal
Note: NEPHROPATHY	TGLs = 3-12		
Liver		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung	Alveolar Epith	Hyperplasia	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16813

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16813

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Respirat Epith	Degeneration	Mild
	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Minimal
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
Preputial Gland		Inflammation	Chronic, Mild
Spleen		Hematopoietic Cell Proliferation	Minimal
		Leukemia Mononuclear	
		Pigmentation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild

Note: ADENOMA TGLs = 1,2-5.1

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16814

TRT#: 3

SEX: Male

DAY ON TEST: 636

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16814

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Thymus	Thyroid Gland
Trachea			

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney	Pelvis	Inflammation	Acute, Marked
		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 3-12			
Note: NEPHROPATHY--CAUSE OF DEATH			
Liver	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node			
Note: MESENTERIC L.N. NORMAL.			
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 5-1			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16814

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 636

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16814

**ORGAN AND ACCOUNTABLE SITE STATUS**

Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Marked
Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Moderate
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Inflammation	Acute, Mild
	Glandular, Mucosa	Ulcer	Marked
Testes	Interstit Cell	Adenoma	
		Atrophy	Moderate
	Interstit Cell	Hyperplasia	Minimal
Note: ATROPHY	TGLs = 1-5.1		
[ Atrophy TGLS = 2-5.1 ]			
Urinary Bladder		Inflammation	Chronic Active, Moderate
Note: INFLAMMATION	TGLs = 4-5		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16815

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16815

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Pituitary Gland	Prostate
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Thymus	Thyroid Gland	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Minimal
Intestine Large	Rectum	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Minimal
	Nasolacrim Dct	Inflammation	Acute, Moderate
Pancreas	Acinus	Atrophy	Moderate
Preputial Gland		Inflammation	Chronic, Mild
Spleen		Hematopoietic Cell Proliferation	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16815

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16815

**ORGAN AND ACCOUNTABLE SITE STATUS**

Organ	Accountable Site	Findings	Remarks
Testes	Bilateral, Interstit Cell Interstit Cell	Hyperplasia Pigmentation Adenoma Hyperplasia	Lymphoid, Mild Minimal Mild
Note: ADENOMA	TGLs = 1,2-5.1		
Trachea		Inflammation	Acute, Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16816

TRT#: 3

SEX: Male

DAY ON TEST: 606

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16816

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas	Parathyroid Gland	Prostate
Salivary Glands	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 3-12		
Liver	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Moderate
Note: INFLAMMATION	TGLs = 2-11		
Note: HYPERPLASIA	TGLs = 2-11		
Lung		Adenosquamous Carcinoma	
		Infiltration Cellular	Lymphocyte, Mild
Note: CARC. ADENOSQUA--CAUSE OF DEATH			
[ Adenosquamous Carcinoma TGLS = 5-15 ]			
Lymph Node	Mesenteric	Congestion	Mild
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 6-1		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16816

TRT#: 3

SEX: Male

DAY ON TEST: 606

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16816

ORGAN AND ACCOUNTABLE SITE STATUS

Preputial Gland		Inflammation	Chronic Active, Moderate
Skin	Head	Abscess	Mild
Note: ABSCESS--BL.14.1			
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Erosion	Mild
Note: EROSION IN RECUT BLOCK 15			
Note: EROSION TGLs = 1-15			
Testes	Interstit Cell	Hyperplasia	Minimal
Thyroid Gland	C Cell	Adenoma	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16817

TRT#: 3

SEX: Male

DAY ON TEST: 681

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16817

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Prostate	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Moderate
Note: PIGMENT TGLs = 4-12			
Liver	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 5-11			
Lung		Hemorrhage	Minimal
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Note: LEUKEMIA MONUC TGLs = 6-4			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16817

TRT#: 3

SEX: Male

DAY ON TEST: 681

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16817

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Mucosa	Inflammation	Acute, Minimal
Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Mild
	Pars Distalis	Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	

Note: LEUKEMIA--CAUSE OF DEATH

[ Hematopoietic Cell Proliferation TGLS = 1-12 ]

Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild

Note: ADENOMA TGLs = 3-5.1

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16818

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16818

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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
Prostate	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 4-12		
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Moderate
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Hemorrhage	Mild
	Pars Distalis	Hyperplasia	Mild
Note: HYPERPLASIA	TGLs = 5-1		
Note: HEMORRHAGE	TGLs = 5-1		
Preputial Gland		Inflammation	Chronic Active, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:52  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

**ANIMAL ID:** 16818

**TRT#:** 3  
**DOSE:** 1200 PPM

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 731  
**HISTO:** 16818

**ORGAN AND ACCOUNTABLE SITE STATUS**

Spleen			Fibrosis	Moderate
			Hematopoietic Cell Proliferation	Moderate
			Pigmentation	Mild
Note: FIBROSIS	TGLs = 3-15			
Testes		Bilateral, Interstit Cell	Adenoma	
Note: ADENOMA	TGLs = 1,2-5.1			
Thyroid Gland		C Cell	Adenoma	
PRIMARY CAUSE OF DEATH		-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16819

TRT#: 3

SEX: Male

DAY ON TEST: 726

DOSE: 1200 PPM

DISP: Dead

HISTO: 16819

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	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	Prostate	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
	Brain	Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Moderate
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Liver		Hyperplasia	Mild
	Bile Duct	Inflammation	Chronic, Mild
	Portal	Leukemia Mononuclear	
Lung		Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16819

TRT#: 3

SEX: Male

DAY ON TEST: 726

DOSE: 1200 PPM

DISP: Dead

HISTO: 16819

ORGAN AND ACCOUNTABLE SITE STATUS

Mammary Gland	Mesenteric Acinus Duct	Leukemia Mononuclear Ectasia Ectasia	Marked Moderate
Nose	Olfactory Epi Respirat Epith Olfactory Epi Lumen Mucosa Pars Intermed	Degeneration Degeneration Erosion Hemorrhage Inflammation Angiectasis	Moderate Moderate Minimal Mild Acute, Mild Moderate
Pituitary Gland Note: ANGIECTASIS TGLs = 8-1			
Preputial Gland		Inflammation	Chronic, Mild
Spleen		Hematopoietic Cell Proliferation Leukemia Mononuclear Pigmentation	Mild Minimal
[ Pigmentation TGLS = 2-12 ]			
Testes	Interstit Cell  Interstit Cell	Adenoma Atrophy Hyperplasia	Moderate Mild
Note: ATROPHY TGLs = 4-5.1 Note: ADENOMA TGLs = 5-5.1 [ Atrophy TGLS = 3-5.1 ]			
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16820

TRT#: 3

SEX: Male

DAY ON TEST: 652

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16820

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Brain	Epididymis
Esophagus	Intestine Large - Rectum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Parathyroid Gland	Pituitary Gland	Prostate
Salivary Glands	Skin	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Intestine Large	Cecum	Leukemia Mononuclear	
	Colon	Leukemia Mononuclear	
Intestine Small	Duodenum	Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
	Renal Tubule	Nephropathy	Chronic, Mild
		Pigmentation	Minimal
[ Nephropathy TGLS = 2,3-12+15.3 ]			
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 4-11			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16820

TRT#: 3

SEX: Male

DAY ON TEST: 652

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16820

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA IN HEPATIC L.N.

Note: LEUKEMIA MONUC TGLs = 5,6-15+15.1

Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Mild
Pancreas		Leukemia Mononuclear	
Preputial Gland		Inflammation	Chronic, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	

Note: LEUKEMIA--CAUSE OF DEATH

[ Leukemia Mononuclear TGLS = 1-12 ]

Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Erosion	Minimal
	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	
	Forestomach	Ulcer	Marked

Note: ULCER TGLs = 10-6+6.1+15.2

Note: EROSION TGLs = 9-15.2

Testes	Bilateral, Interstit Cell	Adenoma	
		Atrophy	Moderate
	Interstit Cell	Hyperplasia	Mild

Note: ADENOMA TGLs = 8-5.1

Note: ATROPHY TGLs = 7-5.1

Thyroid Gland	C Cell	Adenoma	
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PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16821

TRT#: 3

SEX: Male

DAY ON TEST: 597

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16821

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Pancreas	Parathyroid Gland	Prostate
Salivary Glands	Skin	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney	Renal Tubule	Cyst	
		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY--CAUSE OF DEATH [ Nephropathy TGLS = 1-12 ]			
Liver		Fatty Change	Moderate
	Bile Duct	Hyperplasia	Minimal
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node			
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 4-1			
Preputial Gland		Inflammation	Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16821

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 597

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16821

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Forestomach	Inflammation	Chronic Active, Mild
Note: INFLAMMATION	TGLs = 3-6		
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 2-5.1		

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16822

TRT#: 3

SEX: Male

DAY ON TEST: 671

DOSE: 1200 PPM

DISP: Dead

HISTO: 16822

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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
Pituitary Gland	Salivary Glands	Stomach - Forestomach	Stomach - Glandular
Thyroid Gland	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 8-12		
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Minimal
		Osteosarcoma	Metastatic (Uncertain Primary Site)
Note: OSTEOSARC	TGLs = 7-4+15.1		
Note: OSTEOSARCOMA--CAUSE OF DEATH			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mediastinal	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
	Popliteal	Hyperplasia	Lymphoid, Mild
Nose	Lumen	Degeneration	Mild
	Lumen	Hemorrhage	Mild
Pancreas	Acinus	Atrophy	Mild
Preputial Gland		Inflammation	Chronic Active, Moderate
		Mineralization	Mild
Prostate		Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16822

TRT#: 3

SEX: Male

DAY ON TEST: 671

DOSE: 1200 PPM

DISP: Dead

HISTO: 16822

**ORGAN AND ACCOUNTABLE SITE STATUS**

Skin	Tail	Squamous Cell Papilloma	
[ Squamous Cell Papilloma TGLS = 1-15 ]			
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 4,5-5.1		
Thymus		Osteosarcoma	Metastatic (Uncertain Primary Site)
Note: OSTEOSARC	TGLs = 6-15.1		
Trachea		Inflammation	Acute, Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16824

TRT#: 3

SEX: Male

DAY ON TEST: 659

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16824

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Salivary Glands	Skin
Thymus	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Mild
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Moderate
Kidney	Renal Tubule	Adenoma	
		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Moderate
Liver	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
		Necrosis	Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Lymph Node	Arteriole	Mineralization	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Moderate
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16824

TRT#: 3

SEX: Male

DAY ON TEST: 659

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16824

ORGAN AND ACCOUNTABLE SITE STATUS

Pituitary Gland Note: ADENOMA TGLs = 5-1	Nasolacrim Dct Pars Distalis	Inflammation Adenoma	Acute, Mild
Preputial Gland		Inflammation	Chronic Active, Moderate
Prostate		Inflammation	Acute, Marked
Spleen		Hematopoietic Cell Proliferation Leukemia Mononuclear Pigmentation	Mild Minimal
[ Hematopoietic Cell Proliferation TGLS = 1-12 ]			
Stomach	Glandular, Mucosa Glandular, Mucosa Forestomach	Dilatation Erosion Ulcer	Mild Minimal Moderate
Note: EROSION TGLs = 6-15			
Testes	Bilateral, Interstit Cell	Adenoma Atrophy	Marked
Note: ATROPHY TGLs = 4-5.1 Note: ADENOMA TGLs = 2-5.1			
Thyroid Gland	C Cell	Adenoma	
PRIMARY CAUSE OF DEATH	-		
Animal Note: LEUKEMIA--CAUSE OF DEATH			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16828

TRT#: 3

SEX: Male

DAY ON TEST: 726

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16828

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Mammary Gland	Parathyroid Gland	Pituitary Gland
Prostate	Salivary Glands	Skin	Stomach - Glandular
Trachea			

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Intestine Large	Rectum	Ulcer	Moderate
Kidney	Renal Tubule	Cyst	
		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 6-12+15.1		
Note: CYST	TGLs = 7-15.1		
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Fibrous Histiocytoma	Metastatic (Skin)
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Alveolus	Mineralization	Mild
Lymph Node		Pigmentation	Cholesterol, Mild
	Mandibular	Hyperplasia	Lymphoid, Moderate
	Nose	Olfactory Epi	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16828

TRT#: 3

SEX: Male

DAY ON TEST: 726

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16828

ORGAN AND ACCOUNTABLE SITE STATUS

	Respirat Epith	Degeneration	Mild
	Respirat Epith	Erosion	Moderate
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
Pancreas	Acinus	Atrophy	Moderate
Preputial Gland		Inflammation	Chronic Active, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Forestomach	Ulcer	Moderate
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 3,4-5.1		
Thyroid Gland	C Cell	Hyperplasia	Mild
Urinary Bladder		Inflammation	Chronic Active, Minimal
Zymbal's Gland		Carcinoma	
Note: SECONDARY SQUAMOUS HYPERPLASIA			
[ Carcinoma TGLS = 1-15 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16829

TRT#: 3

SEX: Male

DAY ON TEST: 558

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16829

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Mammary Gland	Pancreas	Preputial Gland	Prostate
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Lymph Node - Mandibular	Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Brain		Hemorrhage	Mild
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Colon	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Congestion	Mild
		Fatty Change	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Congestion	Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic Active, Minimal
	Arteriole	Mineralization	Mild
[ Congestion TGLS = 1-4 ]			
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Vomeronas Org	Inflammation	Acute, Minimal
Pituitary Gland	Pars Distalis	Adenoma	

Note: ADENOMA--CAUSE OF DEATH

Note: ADENOMA TGLs = 2-1

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16829

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 558

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16829

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Thymus		Congestion	Mild

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16830

TRT#: 3

SEX: Male

DAY ON TEST: 632

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16830

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Parathyroid Gland	Prostate	Salivary Glands	Skin
Testes	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Mild
Islets, Pancreatic		Carcinoma	
Note: TWO SITES			
Kidney	Renal Tubule	Cyst	
		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: CYST TGLs = 2-15			
Note: NEPHROPATHY--CAUSE OF DEATH			
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
[ Fatty Change TGLS = 1-11 ]			
Lung		Hemorrhage	Minimal
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Minimal
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

---

**ANIMAL ID:** 16830

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 632

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16830

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland Note: ADENOMA TGLs = 5-1	Pars Distalis	Adenoma	
Preputial Gland		Inflammation	Chronic Active, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach Note: ULCER TGLs = 4-6	Forestomach Glandular, Mucosa	Ulcer	Marked
		Ulcer	Moderate

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02  
Test Type: CHRONIC  
Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Test Compound: Toluene  
CAS Number: 108-88-3

Date Report Requested: 10/22/2014  
Time Report Requested: 16:56:52  
First Dose M/F: NA / NA  
Lab: IRDC

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<b>ANIMAL ID:</b> 16831	<b>TRT#:</b> 3 <b>DOSE:</b> 1200 PPM	<b>SEX:</b> Male <b>DISP:</b> Moribund	<b>DAY ON TEST:</b> 597 <b>HISTO:</b> 16831
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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**NORMAL**

Blood Vessel	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
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

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**MISSING**

Lymph Node - Mandibular

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**OBSERVATIONS**

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Minimal
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Minimal
Liver	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Leukemia Mononuclear	
		Leukemia Mononuclear	

Note: LEUKEMIA IN HEPATIC L.N.

Note: LEUKEMIA MONUC TGLs = 3-15.1

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16831

TRT#: 3

SEX: Male

DAY ON TEST: 597

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16831

ORGAN AND ACCOUNTABLE SITE STATUS

Nose	Olfactory Epi	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Cyst	
Preputial Gland		Inflammation	Chronic Active, Mild
Skin	Subcut Tiss	Fibroma	
	[ Fibroma TGLS = 1-15 ]		
Spleen		Leukemia Mononuclear	
	[ Leukemia Mononuclear TGLS = 2-12 ]		
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA	TGLs = 4-5.1		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16832

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16832

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - 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
Mammary Gland	Parathyroid Gland	Prostate	Salivary Glands
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
Blood Vessel	Thoracic	Inflammation	Chronic Active, Marked
Note: LESION IN BL. 2.1			
Heart		Cardiomyopathy	Chronic, Moderate
Islets, Pancreatic		Adenoma	
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Minimal
Note: NEPHROPATHY TGLs = 4-12			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
	Arteriole	Inflammation	Chronic Active, Moderate
Pituitary Gland	Pars Distalis	Hyperplasia	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16832

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16832

ORGAN AND ACCOUNTABLE SITE STATUS

Note: HYPERPLASIA TGLs = 5-1

Preputial Gland

Inflammation

Chronic Active, Mild

Skin

Subcut Tiss

Fibrosarcoma

Note: AREAS RESEMBLE HEMANGIOPERICYTOMA

Note: [ FIBROSARC ] TGLs = 6-15

Spleen

Hematopoietic Cell Proliferation

Mild

Pigmentation

Mild

Stomach

Glandular, Mucosa

Dilatation

Mild

Testes

Bilateral, Interstit Cell

Adenoma

Interstit Cell

Hyperplasia

Mild

Note: ADENOMA TGLs = 1,2,3-5.1

Thyroid Gland

C Cell

Adenoma

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16833

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16833

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Medulla	Pheochromocytoma Nos	
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 4-12			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Marked
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
	Olfactory Epi	Metaplasia	Squamous, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 5-1			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:52  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

**ANIMAL ID:** 16833

**TRT#:** 3  
**DOSE:** 1200 PPM

**SEX:** Male  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 729  
**HISTO:** 16833

**ORGAN AND ACCOUNTABLE SITE STATUS**

Preputial Gland		Inflammation	Chronic, Moderate
Prostate		Inflammation	Chronic Active, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Interstit Cell	Adenoma	
		Atrophy	Moderate
	Interstit Cell	Hyperplasia	Minimal
	Arteriole	Inflammation	Chronic, Mild
	[ Adenoma TGLS = 1,3-5.1 ]		
	[ Atrophy TGLS = 2-5.1 ]		

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16834

TRT#: 3

SEX: Male

DAY ON TEST: 704

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16834

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Ileum	Intestine Small - Jejunum	Parathyroid Gland	Salivary Glands
Skin	Thymus	Trachea	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
	Heart	Cardiomyopathy	Chronic, Mild
	Atrium	Thrombosis	
Note: THROMBUS TGLs = 6-15.2+9			
Intestine Small	Duodenum	Erosion	Mild
Note: EROSION IN BL. 6			
Islets, Pancreatic		Adenoma	
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Moderate
Note: NEPHROPATHY TGLs = 10-12 [ Nephropathy TGLS = 10-12 ]			
Liver	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 2-11			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Metaplasia	Osseous, Minimal
		Mineralization	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16834

TRT#: 3

SEX: Male

DAY ON TEST: 704

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16834

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC TGLs = 7-4+15.3

Note: LEUKEMIA--CAUSE OF DEATH

Lymph Node	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Marked
Nose	Olfactory Epi	Degeneration	Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Leukemia Monocytic	

Note: ADENOMA TGLs = 8-1

Note: LEUKEMIA MONO TGLs = 8-1

Preputial Gland		Inflammation	Chronic Active, Moderate
Prostate		Inflammation	Chronic Active, Marked

Note: INFLAMMATION TGLs = 5-5

Spleen		Leukemia Mononuclear	
		Pigmentation	Minimal

[ Pigmentation TGLS = 1-12 ]

Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Erosion	Moderate
	Forestomach	Ulcer	Moderate

Note: EROSION TGLs = 9-15.1

Testes	Interstit Cell	Adenoma	
	Interstit Cell	Atrophy	Mild
	Interstit Cell	Hyperplasia	Mild

Note: ATROPHY TGLs = 3-5.1

Note: ADENOMA TGLs = 4-5.1

Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16835

TRT#: 3

SEX: Male

DAY ON TEST: 733

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16835

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Heart	Atrium	Cardiomyopathy	Chronic, Mild
		Thrombosis	
Note: OSSEOUS METAPLASIA IN THROMBUS			
Kidney	Renal Tubule	Nephropathy	Chronic, Marked
		Pigmentation	Mild
Note: NEPHROPATHY TGLs = 4-12			
Liver	Bile Duct	Focal Cellular Change	
	Portal	Hyperplasia	Mild
		Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung	Alveolus	Congestion	Mild
		Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
[ Infiltration Cellular TGLS = 3-4 ]			
Lymph Node	Mesenteric	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Olfactory Epi	Erosion	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16835

TRT#: 3

SEX: Male

DAY ON TEST: 733

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16835

ORGAN AND ACCOUNTABLE SITE STATUS

Pancreas	Mucosa	Inflammation	Acute, Minimal
Pituitary Gland	Acinus	Atrophy	Moderate
	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Mild
Note: CYST	TGLs = 5-1		
Note: HYPERPLASIA	TGLs = 5-1		
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Chronic Active, Moderate
Spleen		Fibrosis	Moderate
		Hematopoietic Cell Proliferation	Minimal
		Leukemia Mononuclear	
		Pigmentation	Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
Note: ADENOMA	TGLs = 1,2-5.1		
Thyroid Gland	C Cell	Adenoma	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16836

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16836

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pituitary Gland
Prostate	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	Urinary Bladder

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Minimal
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Congestion	Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
	Acinus	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic Active, Moderate
Spleen		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

---

**ANIMAL ID:** 16836

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16836

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Interstit Cell

Hyperplasia

Mild

Note: ADENOMA      TGLs = 1,2-5.1

C Cell

Adenoma

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16839

TRT#: 3

SEX: Male

DAY ON TEST: 733

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16839

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Testes	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
Liver	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Minimal
Note: INFILTRAT CELL TGLs = 1-4			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic, Minimal
Prostate		Inflammation	Chronic, Mild
Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16840

TRT#: 3

SEX: Male

DAY ON TEST: 560

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16840

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Brain		Hemorrhage	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Minimal
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Minimal
Mammary Gland	Acinus	Ectasia	Mild
Nose	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 2-1 ]			
Preputial Gland	Duct	Ectasia	Moderate
Prostate		Inflammation	Chronic Active, Moderate
Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

---

**ANIMAL ID:** 16840

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 560

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16840

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Testes

Interstit Cell

Hyperplasia

Mild

[ Hyperplasia TGLS = 1-5.1 ]

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**PRIMARY CAUSE OF DEATH**

-

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**Animal Note:** CAUSE OF DEATH UNKNOWN

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16841

TRT#: 3

SEX: Male

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16841

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pituitary Gland
Prostate	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
Bone Marrow		Myelofibrosis	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
[ Infiltration Cellular TGLS = 1-15 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Minimal
Mesentery	Arteriole	Inflammation	Chronic, Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Moderate
Preputial Gland		Inflammation	Chronic Active, Moderate
Spleen		Hyperplasia	Lymphoid, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16841

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16841

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Testes

Bilateral, Interstit Cell

Pigmentation

Mild

Interstit Cell

Adenoma

Hyperplasia

Mild

Note: ADENOMA TGLs = 2,3-5.1

Thyroid Gland

C Cell

Hyperplasia

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16842

TRT#: 3

SEX: Male

DAY ON TEST: 708

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16842

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Brain	Epididymis
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Prostate
Salivary Glands	Thymus	Trachea	Urinary Bladder

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
		Myelofibrosis	Moderate
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Intestine Large	Rectum	Ulcer	Marked
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Moderate
Note: NEPHROPATHY TGLs = 9-12			
Liver	Bile Duct	Hyperplasia	Marked
	Portal	Inflammation	Chronic, Moderate
			Leukemia Mononuclear
Note: LEUKEMIA MONUC TGLs = 6,12-11			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
		Pigmentation	Cholesterol, Minimal
Lymph Node	Mesenteric	Congestion	Moderate
	Mediastinal	Hemorrhage	Moderate
		Mandibular	Leukemia Mononuclear

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16842

TRT#: 3

SEX: Male

DAY ON TEST: 708

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16842

ORGAN AND ACCOUNTABLE SITE STATUS

Mediastinal  
Mesenteric

Leukemia Mononuclear  
Leukemia Mononuclear

Note: LEUKEMIA MONUC TGLs = 4-15.4  
[ Hemorrhage TGLS = 4-15.1 ]

Mammary Gland

Acinus

Ectasia

Moderate

Mesentery

Fat

Necrosis

Moderate

Note: NECROSIS TGLs = 10-15.2

Nose

Olfactory Epi

Degeneration

Mild

Mucosa

Inflammation

Acute, Moderate

Pancreas

Acinus

Atrophy

Moderate

Pituitary Gland

Pars Distalis

Cyst

Pars Intermed

Cyst

Note: CYST TGLs = 15-1

Note: CYST TGLs = 15-1

Preputial Gland

Hyperplasia

Moderate

Inflammation

Chronic, Mild

Note: [ HYPERPLASIA ] TGLs = 3-15

Skin

Subcut Tiss, Tail

Inflammation

Acute, Marked

Foot

Ulcer

Marked

Note: INFLAMMATION TGLs = 1-15

Note: ULCER TGLs = 11-15.3

Note: TAIL LESION IN RE CUT BLOCK 15

Spleen

Hematopoietic Cell Proliferation

Mild

Leukemia Mononuclear

Note: LEUKEMIA--CAUSE OF DEATH

[ Hematopoietic Cell Proliferation TGLS = 5-12 ]

Stomach

Glandular, Mucosa

Dilatation

Mild

Forestomach

Hyperplasia

Squamous, Moderate

Forestomach

Ulcer

Moderate

Glandular, Mucosa

Ulcer

Marked

Note: ULCER TGLs = 14-15.1

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

---

**ANIMAL ID:** 16842

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 708

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16842

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ULCER      TGLs = 13-15.1

Testes

Interstit Cell

Adenoma

Atrophy

Marked

Interstit Cell

Hyperplasia

Mild

Note: ATROPHY      TGLs = 7-5.1

Note: ADENOMA      TGLs = 8-5.1

Thyroid Gland

C Cell

Hyperplasia

Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16843

TRT#: 3

SEX: Male

DAY ON TEST: 556

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16843

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Brain
Epididymis	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Mammary Gland	Parathyroid Gland	Pituitary Gland	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Mild
Blood		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 1-16		
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Islets, Pancreatic		Hyperplasia	Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 6-12		
Note: PIGMENT	TGLs = 6-12		
Liver	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 3-11		
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Lymph Node	Mesenteric	Leukemia Mononuclear	
Nose	Lumen	Hemorrhage	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

**ANIMAL ID:** 16843

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 556

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16843

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Mucosa	Inflammation	Acute, Mild
Preputial Gland	Acinus	Atrophy	Mild
Prostate		Inflammation	Chronic, Minimal
Spleen		Inflammation	Acute, Mild
		Leukemia Mononuclear	
		Lymphoma Malignant	
Note: LEUKEMIA--CAUSE OF DEATH [ Leukemia Mononuclear TGLS = 2-12 ]			
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 5-5.1			
Thymus		Leukemia Mononuclear	

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16844

TRT#: 3

SEX: Male

DAY ON TEST: 715

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16844

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone Marrow	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	Trachea	Urinary Bladder

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Bone	Cranium	Fibrous Osteodystrophy	Minimal
	Femur	Fibrous Osteodystrophy	Minimal
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Mild
Intestine Small	Ileum	Erosion	Moderate
Kidney	Renal Tubule	Nephropathy	Chronic, Marked
		Pigmentation	Mild
Note: NEPHROPATHY--CAUSE OF DEATH			
Note: NEPHROPATHY TGLs = 4-12			
Liver		Fatty Change	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Hemorrhage	Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Moderate
	Duct	Ectasia	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16844

TRT#: 3

SEX: Male

DAY ON TEST: 715

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16844

ORGAN AND ACCOUNTABLE SITE STATUS

Nose	Olfactory Epi	Degeneration	Mild
	Olfactory Epi	Erosion	Mild
	Respirat Epith	Erosion	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
	Respirat Epith	Ulcer	Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 5-1		
Preputial Gland		Inflammation	Chronic Active, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Moderate
Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Erosion	Mild
	Forestomach	Ulcer	Marked
Note: EROSION	TGLs = 3-15		
Note: ULCER	TGLs = 2-6		
Testes	Bilateral, Interstit Cell	Adenoma	
Note: ADENOMA	TGLs = 1-5.1		
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16846

TRT#: 3

SEX: Male

DAY ON TEST: 478

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16846

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Prostate
Salivary Glands	Skin	Stomach - Glandular	Thymus

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Capsule	Mesothelioma Malignant	
Heart		Cardiomyopathy	Chronic, Mild
Kidney	Capsule	Mesothelioma Malignant	
	Renal Tubule	Nephropathy	Chronic, Mild
		Pigmentation	Mild
Note: MESOTHELIO MAL TGLs = 3-12			
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
	Serosa	Mesothelioma Malignant	
Note: MESOTHELIO MAL TGLs = 2-15+11			
Lung		Infiltration Cellular	Lymphocyte, Mild
	Bronchiole	Inflammation	Acute, Moderate
Note: INFLAMMATION TGLs = 5-4			
Note: ACUTE INFLAM.--CAUSE OF DEATH			
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Note: HYPERPLASIA TGLs = 6-1			
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Lumen	Hemorrhage	Moderate
Pancreas	Acinus	Atrophy	Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16846

TRT#: 3

SEX: Male

DAY ON TEST: 478

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16846

ORGAN AND ACCOUNTABLE SITE STATUS

Pituitary Gland

Pars Distalis

Mesothelioma Malignant

Preputial Gland

Adenoma

Inflammation

Chronic, Moderate

Spleen

Capsule

Mesothelioma Malignant

Pigmentation

Mild

Note: MESOTHELIO MAL TGLs = 1-11+15.1

Stomach

Forestomach, Serosa

Mesothelioma Malignant

Testes

Interstit Cell

Hyperplasia

Mild

Serosa

Mesothelioma Malignant

Thyroid Gland

C Cell

Hyperplasia

Minimal

Trachea

Inflammation

Acute, Mild

Urinary Bladder

Serosa

Mesothelioma Malignant

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16847

TRT#: 3

SEX: Male

DAY ON TEST: 733

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16847

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Lymph Node - Mandibular	Mammary Gland	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Minimal
Heart		Cardiomyopathy	Chronic, Moderate
Intestine Large	Rectum	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Minimal
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Chronic Active, Marked
Spleen		Hematopoietic Cell Proliferation	Mild
		Hyperplasia	Lymphoid, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16847

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 733

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16847

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Testes

Bilateral, Interstit Cell

Pigmentation

Mild

Note: ADENOMA

TGLs = 1,2-5.1

Adenoma

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16848

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16848

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Moderate
Intestine Large	Colon	Granuloma	Moderate
	Rectum	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Minimal
Note: NEPHROPATHY	TGLs = 3-12		
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Minimal
Mammary Gland	Acinus	Ectasia	Minimal
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Cyst	
Preputial Gland		Inflammation	Chronic Active, Moderate
Prostate		Inflammation	Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16848

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16848

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild

Note: ADENOMA TGLs = 1,2-5.1

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16849

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16849

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Parathyroid Gland	Pituitary Gland
Prostate	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Minimal
Eye		Cataract	Mild
	Retina	Degeneration	Marked
	Sclera	Mineralization	Mild
Note: CATARACT	TGLs = 1-15.2		
Note: DEGEN	TGLs = 1-15.2		
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Infarct	Moderate
		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Minimal
Note: INFARCT HEALED			
Note: INFARCT	TGLs = 7-12		
Note: NEPHROPATHY	TGLs = 6-12		
Liver		Developmental Malformation	
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
[ Developmental Malformation TGLS = 5-15 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Congestion	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16849

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16849

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mammary Gland	Mandibular	Hyperplasia	Lymphoid, Mild
Nose	Mesenteric	Hyperplasia	Lymphoid, Mild
	Acinus	Ectasia	Minimal
	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
Pancreas	Mucosa	Inflammation	Acute, Mild
Preputial Gland	Acinus	Atrophy	Minimal
Note: INFLAMMATION TGLs = 2-5.2		Inflammation	Chronic Active, Moderate
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
Note: ADENOMA TGLs = 3,4-5.1	Interstit Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16850

TRT#: 3

SEX: Male

DAY ON TEST: 495

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16850

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Epididymis	Esophagus
Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Trachea	Urinary Bladder

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Minimal
Bone Marrow		Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Minimal
Intestine Large	Colon	Leukemia Mononuclear	
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 3-11		
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
[ Leukemia Mononuclear TGLS = 1-4 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16850

TRT#: 3

SEX: Male

DAY ON TEST: 495

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16850

ORGAN AND ACCOUNTABLE SITE STATUS

Pancreas	Lumen	Hemorrhage	Moderate
Pituitary Gland	Mucosa	Inflammation	Acute, Minimal
Preputial Gland	Pars Distalis	Leukemia Mononuclear	
Prostate	Pars Distalis	Adenoma	
Note: INFLAMMATION TGLs = 5-5	Duct	Leukemia Mononuclear	
Spleen		Ectasia	Moderate
		Inflammation	Chronic, Mild
		Inflammation	Acute, Marked
Note: LEUKEMIA--CAUSE OF DEATH			
Note: LEUKEMIA MONUC TGLs = 2-12		Hematopoietic Cell Proliferation	Mild
Testes	Interstit Cell	Leukemia Mononuclear	
Note: ADENOMA TGLs = 4-5.1	Interstit Cell	Pigmentation	Mild
Thymus		Adenoma	
Thyroid Gland	Follicle	Hyperplasia	Mild
		Leukemia Mononuclear	
		Ectasia	Mild
		Infiltration Cellular	Lymphocyte, Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16851

TRT#: 3

SEX: Male

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16851

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Epididymis	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Pancreas	Parathyroid Gland	Prostate
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Mild
Heart	Artery	Cardiomyopathy	Chronic, Mild
	Rectum	Mineralization	Mild
Intestine Large	Rectum	Parasite Metazoan	
Kidney	Renal Tubule	Nephropathy	Chronic, Moderate
		Pigmentation	Minimal
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
Lung	Portal	Inflammation	Chronic, Mild
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Minimal
Lymph Node	Arteriole	Mineralization	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
Mammary Gland	Mesenteric	Hyperplasia	Lymphoid, Mild
	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Minimal
	Mucosa	Inflammation	Acute, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16851

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16851

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland Note: ADENOMA TGLs = 5-1	Pars Distalis	Adenoma	
Preputial Gland		Inflammation	Chronic, Moderate
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
		Atrophy	Moderate
Note: ATROPHY TGLs = 1-5.1	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 2-5.1 [ Atrophy TGLS = 2-5.1 ]			
Thyroid Gland	Follicle	Ectasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16852

TRT#: 3

SEX: Male

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16852

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Parathyroid Gland	Pituitary Gland
Salivary Glands	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Note: INFLAMMATION	TGLs = 3-4		
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Marked
	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Preputial Gland		Inflammation	Chronic, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16852

**TRT#:** 3

**SEX:** Male

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16852

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Prostate		Inflammation	Chronic Active, Moderate
Skin	Head	Inflammation	Acute, Mild
Note: INFLAMMATION--BL. 14.1			
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Minimal
Testes	Bilateral, Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild
Note: ADENOMA TGLs = 1,2-5.1			

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16853

TRT#: 3

SEX: Male

DAY ON TEST: 619

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16853

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla

Blood Vessel

Bone Marrow

Epididymis

Esophagus

Intestine Large - Cecum

Intestine Large - Colon

Intestine Large - Rectum

Intestine Small - Duodenum

Intestine Small - Ileum

Intestine Small - Jejunum

Islets, Pancreatic

Parathyroid Gland

Salivary Glands

Testes

Thymus

Trachea

Urinary Bladder

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland

Cortex

Degeneration

Fatty, Moderate

Cortex

Hyperplasia

Mild

Cortex

Pigmentation

Mild

Bone

Cranium

Inflammation

Chronic, Marked

Note: INFLAMMATION TGLs = 3-15.2

Brain

Compression

Necrosis

Moderate

Note: COMPRESSION TGLs = 4-10

[ Compression TGLS = 4-10 ]

Heart

Cardiomyopathy

Chronic, Mild

Kidney

Infarct

Moderate

Nephropathy

Chronic, Marked

Pigmentation

Mild

[ Infarct TGLS = 2-12 ]

Renal Tubule

Liver

Focal Cellular Change

Bile Duct

Hyperplasia

Mild

Portal

Inflammation

Chronic, Mild

Lung

Infiltration Cellular

Lymphocyte, Mild

Arteriole

Mineralization

Mild

Lymph Node

Mesenteric

Hyperplasia

Lymphoid, Mild

Mammary Gland

Acinus

Ectasia

Moderate

Nose

Olfactory Epi

Degeneration

Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16853

TRT#: 3

SEX: Male

DAY ON TEST: 619

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16853

ORGAN AND ACCOUNTABLE SITE STATUS

	Respirat Epith	Degeneration	Moderate
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Distalis	Carcinoma	
Note: CARCINOMA	TGLs = 5-15.2+15.2		
Note: CARCINOMA--CAUSE OF DEATH			
Preputial Gland		Inflammation	Chronic Active, Mild
Prostate		Inflammation	Acute, Mild
Skin		Abscess	Marked
[ Abscess TGLS = 1-15 ]			
Spleen		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Ulcer	Marked
Note: ULCER	TGLs = 6-6		
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16855

TRT#: 3

SEX: Male

DAY ON TEST: 205

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16855

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Kidney	Mammary Gland
Pancreas	Parathyroid Gland	Pituitary Gland	Prostate
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Testes	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
Bone	Humerus	Fracture	
Note: FRACTURE TGLs = 1-15.1			
Note: INVASION BY FIBROSARCOMA			
Liver	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic Active, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Lumen	Hemorrhage	Moderate
Preputial Gland		Inflammation	Chronic, Minimal
Skeletal Muscle		Fibrosarcoma	
Note: FIBROSARCOMA--CAUSE OF DEATH			
[ Fibrosarcoma TGLS = 2-15 ]			
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16856

TRT#: 3

SEX: Male

DAY ON TEST: 641

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16856

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Pituitary Gland	Salivary Glands
Skin	Stomach - Forestomach	Thyroid Gland	Trachea
Urinary Bladder			

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex Medulla	Degeneration Hyperplasia	Fatty, Minimal Mild
Blood		Leukemia Mononuclear	
Bone Marrow		Leukemia Mononuclear	
Heart		Myelofibrosis Cardiomyopathy	Mild Chronic, Moderate
Kidney	Renal Tubule	Leukemia Mononuclear Nephropathy Pigmentation	Chronic, Moderate Mild
Note: NEPHROPATHY TGLs = 3-12 Note: PIGMENT TGLs = 3-12			
Liver	Bile Duct Portal	Hyperplasia Inflammation Leukemia Mononuclear	Moderate Chronic, Moderate
Note: LEUKEMIA MONUC TGLs = 2-11			
Lung	Alveolus	Infiltration Cellular Infiltration Cellular Leukemia Mononuclear	Histiocyte, Mild Lymphocyte, Mild
Lymph Node	Arteriole Mandibular Mesenteric	Mineralization Leukemia Mononuclear Leukemia Mononuclear	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16856

TRT#: 3

SEX: Male

DAY ON TEST: 641

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16856

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Minimal
Pancreas	Acinus	Atrophy	Moderate
Preputial Gland		Inflammation	Chronic, Mild
Prostate		Inflammation	Chronic, Mild
Spleen		Hematopoietic Cell Proliferation	Minimal
		Leukemia Mononuclear	

Note: LEUKEMIA--CAUSE OF DEATH

[ Hematopoietic Cell Proliferation TGLS = 1-12 ]

Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular	Leukemia Mononuclear	
Testes	Interstit Cell	Adenoma	
	Interstit Cell	Hyperplasia	Mild

Note: ADENOMA TGLs = 4-5.1

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16857

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16857

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Prostate	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
Bone Marrow		Myelofibrosis	Moderate
Heart		Cardiomyopathy	Chronic, Moderate
Kidney	Renal Tubule	Cyst	
	Renal Tubule	Nephropathy	Chronic, Marked
		Pigmentation	Mild
Note: CYST TGLs = 7-15			
Note: NEPHROPATHY TGLs = 4-12			
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Cyst	
	Mandibular	Hyperplasia	Lymphoid, Moderate
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Mesentery	Arteriole	Inflammation	Chronic Active, Moderate
Note: LESIONS IN BL. 6.1			
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Olfactory Epi	Erosion	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16857

TRT#: 3

SEX: Male

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16857

ORGAN AND ACCOUNTABLE SITE STATUS

	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
	Olfactory Epi	Metaplasia	Mild
Parathyroid Gland		Hyperplasia	Mild
Note: HYPERPLASIA	TGLs = 2-2		
Pituitary Gland	Pars Distalis	Angiectasis	Moderate
	Pars Distalis	Hyperplasia	Mild
Note: ANGIECTASIS	TGLs = 5-1		
Preputial Gland		Inflammation	Chronic, Mild
Spleen		Leukemia Mononuclear	
		Pigmentation	Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular	Mineralization	Mild
Testes	Bilateral, Interstit Cell	Adenoma	
Note: ADENOMA	TGLs = 1,3-5.1		
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16858

TRT#: 3

SEX: Male

DAY ON TEST: 681

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16858

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Thymus	Thyroid Gland	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY--CAUSE OF DEATH [ Nephropathy TGLS = 1-12 ]			
Liver		Fatty Change	Moderate
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Moderate
	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 3-1			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16858

TRT#: 3

SEX: Male

DAY ON TEST: 681

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16858

**ORGAN AND ACCOUNTABLE SITE STATUS**

Preputial Gland		Inflammation	Chronic Active, Moderate
Prostate		Inflammation	Chronic Active, Mild
Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Erosion	Moderate
	Glandular, Mucosa	Erosion	Moderate
	Forestomach	Hyperplasia	Squamous, Moderate
	Forestomach	Inflammation	Acute, Moderate
Note: HYPERPLASIA	TGLs = 4-15		
Note: INFLAMMATION	TGLs = 4-15		
Testes		Atrophy	Moderate
	Interstitial Cell	Hyperplasia	Mild
Note: ATROPHY	TGLs = 2-5.1		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16620

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16620

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Medulla	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Bone	Cranium	Osteopetrosis	Moderate
	Femur	Osteopetrosis	Moderate
Note: OSTEOPETROSIS TGLs = 3-14 [ Osteopetrosis TGLS = 5-14.1+14.2+14.3 ]			
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 4-12			
Liver		Developmental Malformation	
		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
Note: DEVELOP MALFOR TGLs = 7-15.2			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
[ Infiltration Cellular TGLS = 2-4 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16620

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16620

ORGAN AND ACCOUNTABLE SITE STATUS

Note: REGIONAL L.N. HYPERPLASTIC

Note: MESENTERIC L.N. NORMAL

Mammary Gland

Acinus

Adenoma

Ectasia

Mild

Fibroadenoma

[ Fibroadenoma TGLS = 1-15 ]

Nose

Olfactory Epi

Degeneration

Mild

Lumen

Hemorrhage

Moderate

Nasolacrim Dct

Inflammation

Acute, Mild

Pars Distalis

Adenoma

Pituitary Gland

Note: ADENOMA TGLs = 6-1

Spleen

Hematopoietic Cell Proliferation

Moderate

Pigmentation

Mild

Stomach

Glandular, Mucosa

Dilatation

Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16621

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16621

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Bone	Femur	Osteopetrosis	Mild
Note: OSTEOPETROSIS TGLs = 2-14			
Clitoral Gland		Inflammation	Chronic Active, Moderate
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Developmental Malformation	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: WET TISSUE REVIEW---FOCUS NOT FOUND IN NEW SLIDE [ Developmental Malformation TGLS = 5-15 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Moderate
		Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N. HYPERPLASTIC Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
		Fibroadenoma	
Note: FIBROADENOMA TGLs = 1-15.1			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16621

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16621

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Moderate
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
Note: [ HYPERPLASIA ] TGLs = 4-1			
Spleen		Hematopoietic Cell Proliferation	Minimal
		Leukemia Mononuclear	
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Urinary Bladder	Transit Epithe	Papilloma	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16623

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16623

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Marked
	Cortex	Hyperplasia	Mild
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Liver		Developmental Malformation	
		Focal Cellular Change	Mild
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
	[ Developmental Malformation TGLS = 1-15, 2-15.1 ]		
Lung		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Mucosa	Inflammation	Acute, Mild
Ovary	Periovarn Tiss	Cyst	
	[ Cyst TGLS = 3-5 ]		
Pituitary Gland	Pars Distalis	Cyst	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16623

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16623

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Adenoma	

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16624

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16624

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	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	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Minimal
Bone Marrow	Myeloid Cell	Hyperplasia	Marked
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N. HYPERPLASTIC			
Mammary Gland	Acinus	Ecstasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Nasolacrim Dct	Inflammation	Acute, Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

---

**ANIMAL ID:** 16624

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16624

---

**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland

Pars Distalis

Cyst

Spleen

Pars Distalis

Hyperplasia

Moderate

[ Hematopoietic Cell Proliferation TGLS = 2-12 ]

Hematopoietic Cell Proliferation

Marked

Stomach

Glandular, Mucosa

Dilatation

Mild

Uterus

Endometrium

Sarcoma Stromal

[ Sarcoma Stromal TGLS = 1-15 ]

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16625

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16625

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Rectum	Parasite Metazoan	
Kidney	Renal Tubule	Nephropathy	Chronic, Mild
		Pigmentation	Moderate
Liver		Developmental Malformation	
		Focal Cellular Change	
	Bile Duct	Granuloma	Mild
	Portal	Hyperplasia	Moderate
		Inflammation	Chronic, Mild
Note: HYPERPLASIA TGLs = 3-15.2			
Note: DEVELOP MALFOR TGLs = 2-15.1			
Note: INFLAMMATION TGLs = 3-15.2			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Note: INFILTRAT CELL TGLs = 1-15+4			
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:52  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16625	<b>TRT#:</b> 4 <b>DOSE:</b> 0 PPM	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 732 <b>HISTO:</b> 16625
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Marked
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 4-1, 5-1		
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Infiltration Cellular	Lymphocyte, Mild

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PRIMARY CAUSE OF DEATH -

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16627

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16627

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Bone Marrow	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
Stomach - Glandular	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Brain		Gliosis	Moderate
	Latl Ventrcl	Hemorrhage	Mild
		Hydrocephalus	Mild
Note: LESIONS SECOND. TO PIT. ADENOMA			
Clitoral Gland		Inflammation	Chronic Active, Moderate
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 4-12			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 3-11			
Lung		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 1-4			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16627

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16627

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
	Nasolacrim Dct	Inflammation	Acute, Moderate
Ovary	Periovarn Tiss	Cyst	
Note: CYST	TGLs = 6-5		
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 5-1		
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Minimal

[ Hematopoietic Cell Proliferation TGLS = 2-12 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16628

TRT#: 4

SEX: Female

DAY ON TEST: 430

DOSE: 0 PPM

DISP: Dead

HISTO: 16628

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thyroid Gland	Trachea	Urinary Bladder

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Minimal
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Congestion	Moderate
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Thymus		Congestion	Mild
Uterus		Ectasia	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16628

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 430

**DOSE:** 0 PPM

**DISP:** Dead

**HISTO:** 16628

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Animal Note: CAUSE OF DEATH UNKNOWN

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16629

TRT#: 4

SEX: Female

DAY ON TEST: 626

DOSE: 0 PPM

DISP: Moribund

HISTO: 16629

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
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	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Brain		Compression	
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Lumen	Hemorrhage	Mild
Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-1 ]			
Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:52  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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**ANIMAL ID:** 16629

**TRT#:** 4  
**DOSE:** 0 PPM

**SEX:** Female  
**DISP:** Moribund

**DAY ON TEST:** 626  
**HISTO:** 16629

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pigmentation

Mild

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PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16630

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16630

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Esophagus	Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thyroid Gland	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Brain		Astrocytoma Malignant	
Clitoral Gland		Cyst	
Note: CYST TGLs = 4-5.2			
Eye		Cataract	Marked
	Retina	Degeneration	Marked
Note: DEGEN TGLs = 1-15 [ Degeneration TGLS = 1-15 ]			
Heart		Cardiomyopathy	Chronic, Moderate
Intestine Large	Colon	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Moderate
		Fibroadenoma	
Note: FIBROADENOMA TGLs = 2-15.1			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16630

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16630

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Lumen	Hemorrhage	Mild
Pituitary Gland	Acinus	Atrophy	Moderate
Note: ADENOMA	Pars Distalis	Adenoma	
TGLs = 3-1			
Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Moderate
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thymus		Cyst	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16632

TRT#: 4

SEX: Female

DAY ON TEST: 710

DOSE: 0 PPM

DISP: Moribund

HISTO: 16632

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone Marrow	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Parathyroid Gland
Salivary Glands	Skin	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Bone	Cranium	Fibrous Osteodystrophy	
	Femur	Fibrous Osteodystrophy	
Brain		Compression	
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Chronic, Moderate
		Mineralization	Mild
Kidney	Renal Tubule	Cyst	
	Renal Tubule	Nephropathy	Chronic, Marked
		Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 2-15.2+12		
Note: CYST	TGLs = 3-15.2		
Note: NEPHROPATHY--CAUSE OF DEATH			
Liver		Fatty Change	Mild
		Focal Cellular Change	
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Necrosis	Mild
[ Focal Cellular Change TGLS = 1-11 ]			
Lung		Infiltration Cellular	Lymphocyte, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16632

TRT#: 4

DOSE: 0 PPM

SEX: Female

DISP: Moribund

DAY ON TEST: 710

HISTO: 16632

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Arteriole Mandibular Mesenteric	Mineralization Hyperplasia Hyperplasia	Mild Lymphoid, Mild Lymphoid, Minimal
Mammary Gland	Acinus Duct	Adenoma Ectasia Ectasia Fibroadenoma	Moderate Marked
Note: FIBROADENOMA MISTAKEN FOR CL.GL.AT NECROPSY			
Note: FIBROADENOMA TGLs = 7-15.1			
Mesentery	Fat	Necrosis	Marked
Note: NECROSIS TGLs = 8-15.3			
Nose	Olfactory Epi Mucosa	Degeneration Inflammation	Mild Acute, Minimal
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis Pars Distalis	Adenoma Cyst	
Note: CYST TGLs = 4-1			
Note: ADENOMA TGLs = 4-1			
Spleen		Hematopoietic Cell Proliferation Pigmentation	Mild Moderate
Stomach	Glandular, Mucosa Glandular, Mucosa Forestomach Glandular, Mucosa	Dilatation Erosion Ulcer Ulcer	Mild Mild Marked Marked
Note: ULCER TGLs = 5-15			
Note: ULCER TGLs = 6-6			
Note: EROSION TGLs = 6-15			
Thyroid Gland	C Cell	Hyperplasia Inflammation	Minimal Acute, Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16633

TRT#: 4

SEX: Female

DAY ON TEST: 708

DOSE: 0 PPM

DISP: Moribund

HISTO: 16633

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Salivary Glands	Skin
Stomach - Glandular	Trachea	Urinary Bladder	

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA--CAUSE OF DEATH [ Adenoma TGLS = 1-1 ]			
Spleen		Pigmentation	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16633

**TRT#:** 4

**DOSE:** 0 PPM

**SEX:** Female

**DISP:** Moribund

**DAY ON TEST:** 708

**HISTO:** 16633

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Forestomach	Hyperplasia	Squamous, Moderate
	Forestomach	Ulcer	Moderate
Thyroid Gland	C Cell	Hyperplasia	Mild
Uterus	Endometrium	Hyperplasia	Cystic, Mild

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16634

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16634

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Clitoral Gland	Duct	Ectasia	Moderate
Note: ECTASIA TGLs = 6-5.2			
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Developmental Malformation	
		Focal Cellular Change	
	Portal	Inflammation	Chronic, Mild
Note: DEVELOP MALFOR TGLs = 4-15.2			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
[ Mineralization TGLS = 3-4 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Note: REGIONAL L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Mild
		Fibroadenoma	
[ Ectasia TGLS = 1-7 ]			
[ Fibroadenoma TGLS = 2-15 ]			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

---

**ANIMAL ID:** 16634

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16634

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland Note: ADENOMA      TGLs = 5-1	Lumen Pars Distalis	Hemorrhage Adenoma	Mild
Spleen		Hematopoietic Cell Proliferation Pigmentation	Mild Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16636

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16636

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Mammary Gland	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Brain		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Note: PIGMENT TGLs = 4-12			
Liver	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 2-11			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 3-4			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

---

**ANIMAL ID:** 16636

**TRT#:** 4

**DOSE:** 0 PPM

**SEX:** Female

**DISP:** Terminal Sacrifice

**DAY ON TEST:** 729

**HISTO:** 16636

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Ovary		Leukemia Mononuclear	
Pancreas		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Spleen		Hematopoietic Cell Proliferation	Minimal
		Leukemia Mononuclear	
		Pigmentation	Minimal
[ Hematopoietic Cell Proliferation TGLS = 1-12 ]			
Stomach	Glandular, Mucosa	Erosion	Minimal

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16637

TRT#: 4

SEX: Female

DAY ON TEST: 644

DOSE: 0 PPM

DISP: Moribund

HISTO: 16637

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Thymus
Trachea	Urinary Bladder	Vagina	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Peribronchiolr	Inflammation	Acute, Marked
Note: INFLAMMATION--CAUSE OF DEATH			
Note: INFLAMMATION TGLs = 2-4			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Marked
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Erosion	Mild
	Respirat Epith	Erosion	Moderate
	Lumen	Foreign Body	Moderate
	Mucosa	Inflammation	Acute, Marked
Pituitary Gland	Pars Distalis	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16637

**TRT#:** 4

**DOSE:** 0 PPM

**SEX:** Female

**DISP:** Moribund

**DAY ON TEST:** 644

**HISTO:** 16637

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Note: FORESTOMACH--CUTTING ARTIFACT--NO LESION			
Thyroid Gland	C Cell	Hyperplasia	Mild
Uterus	Endometrium	Hyperplasia	Cystic, Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16638

TRT#: 4

SEX: Female

DAY ON TEST: 719

DOSE: 0 PPM

DISP: Moribund

HISTO: 16638

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	Vagina

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
Note: FATTY CHANGE	TGLs = 4-15.1+11		
Lung		Congestion	Mild
		Hemorrhage	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
[ Congestion TGLS = 1-4 ]			
[ Infiltration Cellular TGLS = 1-4 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Marked
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16638

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 719

**DOSE:** 0 PPM

**DISP:** Moribund

**HISTO:** 16638

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland Note: ADENOMA TGLs = 2-1	Nasolacrim Dct Pars Distalis	Inflammation Adenoma	Acute, Minimal
Spleen		Hematopoietic Cell Proliferation Pigmentation	Mild Moderate
Stomach Note: ULCER TGLs = 3-15+6 Note: ULCER--CAUSE OF DEATH	Glandular, Mucosa Forestomach	Dilatation Ulcer	Minimal Marked

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16639

TRT#: 4

SEX: Female

DAY ON TEST: 638

DOSE: 0 PPM

DISP: Moribund

HISTO: 16639

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Pancreas
Parathyroid Gland	Pituitary Gland	Salivary Glands	Skin
Stomach - Forestomach	Thyroid Gland	Trachea	Urinary Bladder
Uterus	Vagina		

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Granuloma	Minimal
	Portal	Inflammation	Chronic, Mild
		Necrosis	Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 2-3.2		
Mammary Gland	Duct	Ectasia	Mild
Nose	Nasolacrim Dct	Inflammation	Acute, Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16639

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 638

**DOSE:** 0 PPM

**DISP:** Moribund

**HISTO:** 16639

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Glandular, Mucosa	Dilatation	Mild
Vagina			
Note: NORMAL CYCLIC CHANGE			
Zymbal's Gland		Carcinoma	
Note: CA.--CAUSE OF DEATH			
Note: [ CARCINOMA ] TGLs = 1-15			

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16640

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16640

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Brain	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder	Uterus	

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Bone	Cranium	Osteopetrosis	Marked
	Femur	Osteopetrosis	Marked
Bone Marrow		Myelofibrosis	Mild
			[ Myelofibrosis TGLS = 1-14 ]
Clitoral Gland	Duct	Ectasia	Mild
		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Granuloma	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Hemorrhage	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild

Note: REGIONAL L.N. NORMAL

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16640

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16640

**ORGAN AND ACCOUNTABLE SITE STATUS**

Mammary Gland	Acinus	Ectasia Fibroadenoma	Moderate
Note: FIBROADENOMA TGLs = 2-15			
Nose	Olfactory Epi Lumen	Degeneration Hemorrhage	Mild Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 3-1			
Spleen		Hematopoietic Cell Proliferation Hyperplasia Pigmentation	Mild Reticulum Cell, Moderate Moderate
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16641

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16641

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Marked
	Cortex	Pigmentation	Mild
Brain		Compression	
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Minimal
Kidney	Renal Tubule	Hyperplasia	Moderate
		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Angiectasis	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic, Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Moderate
	Mesenteric	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N. HYPERPLASTIC			
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
		Fibroadenoma	
[ Fibroadenoma TGLS = 1-15 ]			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:52  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16641	<b>TRT#:</b> 4 <b>DOSE:</b> 0 PPM	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 733 <b>HISTO:</b> 16641
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas	Olfactory Epi	Erosion	Mild
Pituitary Gland	Lumen	Hemorrhage	Minimal
Note: ADENOMA	Mucosa	Inflammation	Acute, Mild
TGLs = 2-1	Acinus	Atrophy	Mild
Spleen	Pars Distalis	Adenoma	
		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Pigmentation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16642

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16642

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	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
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Brain		Compression	
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 3-11 ]			
Lung		Hemorrhage	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Note: INFLAMMATION TGLs = 4-4			
Note: LEUKEMIA MONUC TGLs = 4-4			
Lymph Node	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16642

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16642

ORGAN AND ACCOUNTABLE SITE STATUS

Note: LEUKEMIA MONUC IN REGIONAL L.N.

Mammary Gland

Adenocarcinoma

Acinus

Ectasia

Mild

[ Adenocarcinoma TGLS = 1-15 ]

Nose

Olfactory Epi

Degeneration

Mild

Respirat Epith

Degeneration

Minimal

Lumen

Hemorrhage

Mild

Pars Distalis

Adenoma

Pituitary Gland

Note: ADENOMA TGLs = 6-1

Spleen

Leukemia Mononuclear

[ Leukemia Mononuclear TGLS = 2-11 ]

Stomach

Glandular, Mucosa

Dilatation

Minimal

Thymus

Leukemia Mononuclear

Thyroid Gland

C Cell

Hyperplasia

Mild

Uterus

Endometrium

Polyp Stromal

Note: POLYP STROMAL TGLs = 5-15.1

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16643

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16643

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Clitoral Gland	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
Thymus	Trachea	Urinary Bladder	Uterus

MISSING

Esophagus

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Granuloma	Mild
	Portal	Inflammation	Chronic, Mild
		Necrosis	Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Moderate
	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 1-1		
Spleen		Hematopoietic Cell Proliferation	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

---

**ANIMAL ID:** 16643

**TRT#:** 4

**DOSE:** 0 PPM

**SEX:** Female

**DISP:** Terminal Sacrifice

**DAY ON TEST:** 733

**HISTO:** 16643

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Thyroid Gland

C Cell

Pigmentation

Hyperplasia

Mild

Mild

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16644

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16644

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	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 Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Mild
		Cardiomyopathy	Chronic, Mild
Heart		Parasite Metazoan	
		Parasite Metazoan	
Intestine Large	Colon	Nephropathy	Chronic, Mild
	Rectum	Pigmentation	Mild
Kidney	Renal Tubule	Focal Cellular Change	
		Hyperplasia	Minimal
Liver	Bile Duct	Leukemia Mononuclear	
		Infiltration Cellular	Histiocyte, Minimal
Lung	Alveolus	Infiltration Cellular	Lymphocyte, Mild
		Inflammation	Chronic, Minimal
Lymph Node	Interstitialium	Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Mammary Gland	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC IN REGIONAL L.N.		Leukemia Mononuclear	
	Acinus	Ectasia	Mild
		Fibroadenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16644

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16644

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: FIBROADENOMA	TGLs = 2-15			
Nose		Olfactory Epi	Degeneration	Mild
		Lumen	Hemorrhage	Moderate
Pituitary Gland		Pars Distalis	Angiectasis	Moderate
Note: ANGIECTASIS	TGLs = 3-1			
Spleen			Leukemia Mononuclear	
			Pigmentation	Minimal
[ Pigmentation TGLS = 1-12 ]				
Thymus			Thymoma Benign	
Thyroid Gland		C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH		-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16645

TRT#: 4

SEX: Female

DAY ON TEST: 642

DOSE: 0 PPM

DISP: Dead

HISTO: 16645

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Nose	Ovary
Pancreas	Salivary Glands	Skin	Stomach - Glandular
Thymus	Trachea	Urinary Bladder	Uterus

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Peribronchiolr	Inflammation	Acute, Marked
Note: INFLAMMATION--CAUSE OF DEATH			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Note: MANDIBULAR L.N.--REGIONAL--C-CELL CARCINOMA			
Mammary Gland	Duct	Ectasia	Mild
Pituitary Gland	Pars Intermed	Cyst	
Spleen		Pigmentation	Moderate
Stomach	Forestomach	Ulcer	Marked
[ Ulcer TGLS = 2-6 ]			
Thyroid Gland	C Cell	Carcinoma	
Note: CARCINOMA--CAUSE OF DEATH			
[ Carcinoma TGLS = 1-15 ]			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

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**ANIMAL ID:** 16645

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 642

**DOSE:** 0 PPM

**DISP:** Dead

**HISTO:** 16645

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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: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:52

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16646

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16646

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Esophagus	Intestine Large - Cecum	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Adenoma	
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Colon	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Granuloma	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Hemorrhage	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
[ Infiltration Cellular TGLS = 1-4 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Moderate
Pituitary Gland	Pars Distalis	Cyst	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:52

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

**Lab:** IRDC

---

**ANIMAL ID:** 16646

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16646

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen

Hematopoietic Cell Proliferation

Mild

Pigmentation

Mild

Stomach

Glandular, Mucosa

Dilatation

Mild

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16647

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16647

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	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	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Minimal
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney	Renal Tubule	Cyst	
	Renal Tubule	Nephropathy	Chronic, Mild
		Pigmentation	Mild
Note: CYST	TGLs = 2-15.1		
Liver		Angiectasis	Mild
		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
[ Angiectasis TGLS = 1-15 ]			
Lung		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
		Inflammation	Chronic Active, Moderate
Note: INFLAMMATION IN BL. 5.1			
Nose	Olfactory Epi	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16647

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16647

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Note: HYPERPLASIA    TGLs = 3-1			
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16649

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16649

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Brain
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Islets, Pancreatic		Hyperplasia	Moderate
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 2-11			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
[ Infiltration Cellular TGLS = 1-4 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Hyperplasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Cyst	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16649

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16649

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: HEMORRHAGE	TGLs = 3-1	Pars Distalis	Hemorrhage	Moderate
Spleen			Hematopoietic Cell Proliferation	Moderate
			Leukemia Mononuclear	
			Pigmentation	Mild
Stomach		Glandular, Mucosa	Dilatation	Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16650

TRT#: 4

DOSE: 0 PPM

SEX: Female

DISP: Moribund

DAY ON TEST: 697

HISTO: 16650

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla  
Intestine Large - Cecum  
Intestine Small - Jejunum  
Salivary Glands

Blood Vessel  
Intestine Large - Rectum  
Islets, Pancreatic  
Skin

Bone  
Intestine Small - Duodenum  
Ovary  
Stomach - Forestomach

Esophagus  
Intestine Small - Ileum  
Parathyroid Gland  
Uterus

OBSERVATIONS

Adrenal Gland

Cortex  
Cortex  
Cortex

Degeneration  
Hyperplasia  
Pigmentation  
Leukemia Mononuclear

Fatty, Mild  
Minimal  
Mild

Bone Marrow

Brain

Clitoral Gland

Eye

Retina  
Sclera

Compression  
Inflammation  
Cataract  
Degeneration  
Mineralization

Chronic Active, Mild  
Marked  
Marked  
Moderate

[ Cataract TGLS = 1-15 ]

[ Degeneration TGLS = 1-15 ]

Heart

Cardiomyopathy  
Leukemia Mononuclear  
Parasite Metazoan

Chronic, Mild

Intestine Large

Kidney

Colon

Renal Tubule

Nephropathy  
Pigmentation

Chronic, Moderate  
Moderate

Note: PIGMENT TGLs = 3-12

Liver

Bile Duct  
Portal

Hyperplasia  
Inflammation  
Leukemia Mononuclear

Mild  
Chronic, Minimal

Note: LEUKEMIA MONUC TGLs = 2-11

Lung

Arteriole  
Mandibular  
Mandibular

Infiltration Cellular  
Mineralization  
Cyst  
Hyperplasia

Lymphocyte, Mild  
Mild  
Lymphoid, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16650

TRT#: 4

SEX: Female

DAY ON TEST: 697

DOSE: 0 PPM

DISP: Moribund

HISTO: 16650

ORGAN AND ACCOUNTABLE SITE STATUS

	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 4-15.2		
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Lumen	Hemorrhage	Moderate
Pancreas		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 5-1		
Spleen		Hematopoietic Cell Proliferation	Minimal
		Leukemia Mononuclear	
		Pigmentation	Mild
Note: LEUKEMIA--CAUSE OF DEATH			
Stomach	Glandular, Mucosa	Dilatation	Mild
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Hyperplasia	Mild
Trachea		Inflammation	Acute, Moderate
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16651

TRT#: 4

DOSE: 0 PPM

SEX: Female

DISP: Moribund

DAY ON TEST: 675

HISTO: 16651

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Clitoral Gland	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	Thyroid Gland
Trachea			

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Brain		Hemorrhage	Moderate
		Leukemia Mononuclear	
Eye	Retina	Degeneration	Mild
	Sclera	Mineralization	Mild
Note: DEGEN	TGLs = 4-15.2		
Heart		Cardiomyopathy	Chronic, Minimal
		Leukemia Mononuclear	
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
[ Nephropathy TGLS = 2-12+15.1 ]			
Liver	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Lymph Node	Mandibular	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

<b>ANIMAL ID:</b> 16651	<b>TRT#:</b> 4 <b>DOSE:</b> 0 PPM	<b>SEX:</b> Female <b>DISP:</b> Moribund	<b>DAY ON TEST:</b> 675 <b>HISTO:</b> 16651
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ORGAN AND ACCOUNTABLE SITE STATUS

Mammary Gland	Mesenteric Acinus Duct	Leukemia Mononuclear Ectasia Ectasia	Marked Mild
Nose	Olfactory Epi Respirat Epith Respirat Epith Mucosa	Degeneration Degeneration Erosion Inflammation	Mild Minimal Mild Acute, Mild
Ovary		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis Pars Distalis	Cyst Leukemia Mononuclear	
Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-12 ]			
Stomach	Glandular, Mucosa Forestomach Glandular	Dilatation Leukemia Mononuclear Leukemia Mononuclear	Mild
Note: LEUKEMIA MONUC TGLs = 5,6-6+6.1			
Urinary Bladder		Leukemia Mononuclear	
Uterus		Hemorrhage Leukemia Mononuclear	Marked
	Endometrium	Polyp Stromal	
Note: LEUKEMIA MONUC TGLs = 3-15			
Note: POLYP STROMAL TGLs = 3-15			
[ Leukemia Mononuclear TGLS = 3-15 ]			

PRIMARY CAUSE OF DEATH -

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16652

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16652

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Mammary Gland	Ovary	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
[ Mineralization TGLS = 1-4 ]			
Lymph Node	Mesenteric	Edema	Moderate
	Mandibular	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16653

TRT#: 4

SEX: Female

DAY ON TEST: 639

DOSE: 0 PPM

DISP: Dead

HISTO: 16653

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Bone Marrow	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
Thyroid Gland	Trachea		

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Brain		Hemorrhage	Mild
		Leukemia Mononuclear	
Clitoral Gland		Inflammation	Chronic Active, Mild
Eye		Cataract	Moderate
	Retina	Degeneration	Marked
		Leukemia Mononuclear	
		[ Cataract TGLS = 1-15 ]	
		[ Degeneration TGLS = 1-15 ]	
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Minimal
	Renal Tubule	Pigmentation	Mild
Note: LEUKEMIA MONUC TGLs = 4-12			
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH			
Note: LEUKEMIA MONUC TGLs = 3-11			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16653

TRT#: 4

SEX: Female

DAY ON TEST: 639

DOSE: 0 PPM

DISP: Dead

HISTO: 16653

ORGAN AND ACCOUNTABLE SITE STATUS

Lung		Hemorrhage	Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Lymph Node	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Minimal
Ovary		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Mild
Note: HYPERPLASIA	TGLs = 5-1		
Note: CYST	TGLs = 5-1		
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 2-12		
Stomach	Glandular, Mucosa	Erosion	Minimal
Thymus		Leukemia Mononuclear	
Urinary Bladder		Leukemia Mononuclear	
Uterus		Ectasia	Mild
		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16654

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16654

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Mammary Gland	Ovary	Parathyroid Gland	Salivary Glands
Skin	Stomach - Glandular	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Minimal
Intestine Large	Rectum	Parasite Metazoan	
Kidney	Renal Tubule	Nephropathy	Chronic, Mild
		Pigmentation	Mild
Liver		Developmental Malformation	
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
	[ Developmental Malformation TGLS = 1-11 ]		
Lung		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mesenteric	Congestion	Minimal
	Mandibular	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
Pancreas	Acinus	Atrophy	Marked
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
	Note: [ HYPERPLASIA ] TGLs = 2-1		
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Moderate

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16654

**TRT#:** 4

**DOSE:** 0 PPM

**SEX:** Female

**DISP:** Terminal Sacrifice

**DAY ON TEST:** 732

**HISTO:** 16654

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Forestomach	Inflammation	Chronic Active, Minimal
Thymus		Cyst	

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16656

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16656

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Kidney	Renal Tubule	Nephropathy	Chronic, Moderate
	[ Nephropathy TGLS = 1-12 ]	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N. HYPERPLASTIC			
Mammary Gland	Acinus	Ectasia	Mild
	Acinus	Hyperplasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Intermed	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16656

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16656

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA TGLs = 3-1

Spleen

Hematopoietic Cell Proliferation

Mild

Pigmentation

Mild

Stomach

Glandular, Mucosa

Dilatation

Mild

Uterus

Prolapse

Note: PROLAPSE TGLs = 2-15

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16657

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16657

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla  
Esophagus  
Intestine Small - Ileum  
Parathyroid Gland  
Thymus  
Uterus

Blood Vessel  
Intestine Large - Cecum  
Intestine Small - Jejunum  
Salivary Glands  
Thyroid Gland

Bone  
Intestine Large - Rectum  
Islets, Pancreatic  
Skin  
Trachea

Brain  
Intestine Small - Duodenum  
Ovary  
Stomach - Forestomach  
Urinary Bladder

**MISSING**

Clitoral Gland

**OBSERVATIONS**

Adrenal Gland

Cortex  
Cortex  
Cortex

Degeneration  
Leukemia Mononuclear  
Pigmentation  
Myelofibrosis  
Cardiomyopathy  
Parasite Metazoan  
Nephropathy  
Pigmentation  
Fatty Change  
Focal Cellular Change  
Granuloma  
Hyperplasia  
Inflammation  
Leukemia Mononuclear

Fatty, Minimal  
  
Mild  
Mild  
Chronic, Minimal  
  
Chronic, Moderate  
Mild  
Mild  
  
Minimal  
Minimal  
Chronic, Mild

Bone Marrow  
Heart  
Intestine Large  
Kidney

Colon

Renal Tubule

Liver

[ Leukemia Mononuclear TGLS = 1-11 ]

Lung

Lymph Node

Mandibular

Mandibular

Infiltration Cellular  
Leukemia Mononuclear  
Congestion  
Congestion  
Hyperplasia

Lymphocyte, Mild  
  
Moderate  
Mild  
Lymphoid, Mild

Note: L.N. FOR ADENOCA. NORMAL

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16657

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16657

ORGAN AND ACCOUNTABLE SITE STATUS

Note: CONGESTION IN REGIONAL NODE--FIBROADENOMA

Note: MESENTERIC L.N. NORMAL

Mammary Gland

Acinus

Adenocarcinoma

Ectasia

Moderate

Duct

Ectasia

Mild

Fibroadenoma

Note: ADENOCARC TGLs = 2-15

Note: FIBROADENOMA TGLs = 3-15.2

Nose

Olfactory Epi

Degeneration

Mild

Respirat Epith

Degeneration

Minimal

Lumen

Hemorrhage

Mild

Pancreas

Acinus

Atrophy

Moderate

Pituitary Gland

Pars Distalis

Adenoma

Note: ADENOMA TGLs = 4-1

Spleen

Hematopoietic Cell Proliferation

Moderate

Hyperplasia

Lymphoid, Mild

Pigmentation

Mild

Stomach

Glandular, Mucosa

Dilatation

Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16658

TRT#: 4

DOSE: 0 PPM

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 733

HISTO: 16658

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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
Thymus	Trachea		

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Clitoral Gland		Adenoma	
		Inflammation	Chronic, Mild
Note: [ ADENOMA ] TGLs = 2-15.3			
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Granuloma	Minimal
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: INFLAMMATION TGLs = 3-15			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Mild
Note: PIGMENT IN REGIONAL L.N.			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:53  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16658	<b>TRT#:</b> 4 <b>DOSE:</b> 0 PPM	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 733 <b>HISTO:</b> 16658
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: REGIONAL L.N. HYPERPLASTIC			
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA      TGLs = 5-1			
Spleen		Leukemia Mononuclear	
		Pigmentation	Moderate
[ Pigmentation TGLS = 1-12 ]			
Thyroid Gland	C Cell	Hyperplasia	Minimal
Urinary Bladder		Leukemia Mononuclear	
Uterus		Adenoma	
Note: ADENOMA      TGLs = 4-15.2			

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PRIMARY CAUSE OF DEATH      -

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16659

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16659

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Mammary Gland	Ovary	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Hypertrophy	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	
Clitoral Gland		Inflammation	Chronic, Minimal
		Cardiomyopathy	
Heart		Nephropathy	Chronic, Mild
Kidney	Renal Tubule	Pigmentation	Mild
		Leukemia Mononuclear	
Liver		Infiltration Cellular	Lymphocyte, Mild
	[ Leukemia Mononuclear TGLS = 1-11 ]	Leukemia Mononuclear	
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Marked
Pituitary Gland	Pars Distalis	Adenoma	
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16659

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16659

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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: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16660

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16660

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Lymph Node - Mandibular
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Mild
Brain		Compression	
		Hemorrhage	Mild
Clitoral Gland		Inflammation	Chronic Active, Mild
Note: INFLAMMATION TGLs = 1-5.1			
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Lymph Node			
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Minimal
	Mucosa	Inflammation	Acute, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16660

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16660

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland

Pars Distalis

Adenoma

Note: ADENOMA

TGLs = 2-1

Spleen

Hematopoietic Cell Proliferation

Moderate

Stomach

Glandular, Mucosa

Pigmentation

Mild

Dilatation

Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16661

TRT#: 4

SEX: Female

DAY ON TEST: 568

DOSE: 0 PPM

DISP: Dead

HISTO: 16661

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

MISSING

Adrenal Gland - Medulla	Thymus
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OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Brain		Hemorrhage	Mild
Eye		Atrophy	Marked
Note: ATROPHY	TGLs = 3-15		
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Minimal
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Inflammation	Acute, Moderate
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Mucosa	Inflammation	Acute, Moderate
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA--CAUSE OF DEATH			
[ Adenoma TGLS = 1-1 ]			
Spleen		Pigmentation	Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16661

**TRT#:** 4

**DOSE:** 0 PPM

**SEX:** Female

**DISP:** Dead

**DAY ON TEST:** 568

**HISTO:** 16661

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16663

TRT#: 4

SEX: Female

DAY ON TEST: 675

DOSE: 0 PPM

DISP: Moribund

HISTO: 16663

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla

Blood Vessel

Bone

Bone Marrow

Esophagus

Intestine Large - Cecum

Intestine Large - Colon

Intestine Large - Rectum

Intestine Small - Duodenum

Intestine Small - Ileum

Intestine Small - Jejunum

Islets, Pancreatic

Ovary

Pancreas

Salivary Glands

Skin

Thymus

Trachea

Uterus

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland

Cortex

Degeneration

Fatty, Mild

Cortex

Pigmentation

Mild

Brain

Compression

Clitoral Gland

Inflammation

Chronic, Mild

Inflammation

Acute, Moderate

[ Inflammation TGLS = 1-15 ]

Heart

Cardiomyopathy

Chronic, Mild

Kidney

Nephropathy

Chronic, Moderate

Renal Tubule

Pigmentation

Mild

Note: NEPHROPATHY TGLs = 2-12

Liver

Focal Cellular Change

Hematopoietic Cell Proliferation

Mild

Bile Duct

Hyperplasia

Mild

Portal

Inflammation

Chronic, Mild

Lung

Infiltration Cellular

Lymphocyte, Mild

Lymph Node

Mandibular

Hyperplasia

Lymphoid, Mild

Mesenteric

Hyperplasia

Lymphoid, Mild

Mammary Gland

Acinus

Ectasia

Moderate

Duct

Ectasia

Moderate

Nose

Olfactory Epi

Degeneration

Mild

Respirat Epith

Degeneration

Minimal

Lumen

Hemorrhage

Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

**ANIMAL ID:** 16663

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 675

**DOSE:** 0 PPM

**DISP:** Moribund

**HISTO:** 16663

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA--CAUSE OF DEATH			
Note: ADENOMA TGLs = 3-1			
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Inflammation	Chronic Active, Marked
	Forestomach	Ulcer	Marked
Thyroid Gland	C Cell	Hyperplasia	Mild
Urinary Bladder		Inflammation	Chronic, Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16665

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16665

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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
Pituitary Gland	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Minimal
Lymph Node	Mesenteric	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Thymus		Congestion	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16666

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16666

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Parathyroid Gland
Salivary Glands	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Hemorrhage	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Cyst	
Skin	Head	Inflammation	Chronic Active, Mild
Spleen		Hematopoietic Cell Proliferation	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16666

**TRT#:** 4

**DOSE:** 0 PPM

**SEX:** Female

**DISP:** Terminal Sacrifice

**DAY ON TEST:** 731

**HISTO:** 16666

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pigmentation

Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16667

TRT#: 4

SEX: Female

DAY ON TEST: 731

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16667

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic, Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Moderate
		Fibroadenoma	
[ Fibroadenoma TGLS = 1-15 ]			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16667

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16667

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA      TGLs = 2-1

Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild
Thyroid Gland	C Cell	Hyperplasia	Mild
Uterus	Endometrium	Polyp Stromal	

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16668

TRT#: 4

DOSE: 0 PPM

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 733

HISTO: 16668

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Mammary Gland	Ovary	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Urinary Bladder	Uterus

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Minimal
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic Active, Mild
		Cardiomyopathy	Chronic, Moderate
Heart			
Kidney	Pelvis	Calculus Micro Observation Only	
		Nephropathy	Chronic, Moderate
		Pigmentation	Mild
Liver	Renal Tubule	Focal Cellular Change	
		Granuloma	Mild
		Hyperplasia	Minimal
		Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
		Inflammation	Chronic, Mild
Lymph Node	Interstitium	Hyperplasia	Lymphoid, Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Degeneration	Mild
Nose	Olfactory Epi	Degeneration	Minimal
	Respirat Epith	Hemorrhage	Marked
	Lumen	Inflammation	Acute, Mild
	Mucosa		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16668

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16668

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-1 ]			
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
Trachea		Hemorrhage	Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16670

TRT#: 4

SEX: Female

DAY ON TEST: 583

DOSE: 0 PPM

DISP: Dead

HISTO: 16670

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Pancreas
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
	Atrium	Thrombosis	
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
Lung		Congestion	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Minimal
Note: CONGESTION	TGLs = 4-4		
Lymph Node	Mesenteric	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Erosion	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Moderate
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16670

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 583

**DOSE:** 0 PPM

**DISP:** Dead

**HISTO:** 16670

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA TGLs = 3-1

Note: ADENOMA--CAUSE OF DEATH

Spleen

Hematopoietic Cell Proliferation

Mild

Pigmentation

Moderate

Stomach

Glandular, Mucosa

Dilatation

Mild

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16671

TRT#: 4

DOSE: 0 PPM

SEX: Female

DISP: Moribund

DAY ON TEST: 491

HISTO: 16671

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Brain	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Salivary Glands
Skin	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

MISSING

Bone	Bone Marrow	Nose	Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Leukemia Mononuclear	
	Atrium	Thrombosis	
Kidney	Renal Tubule	Pigmentation	Moderate
Note: PIGMENT TGLs = 6-12			
Liver	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLs = 5-11 ]			
Lung		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLs = 1,2,3-4 ]			
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Pancreas		Leukemia Mononuclear	
Pituitary Gland	Pars Intermed	Angiectasis	Moderate
Note: ANGIECTASIS TGLs = 9-1			
Spleen		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16671

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 491

**DOSE:** 0 PPM

**DISP:** Moribund

**HISTO:** 16671

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: LEUKEMIA--CAUSE OF DEATH

[ Leukemia Mononuclear TGLS = 4-12 ]

Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Erosion	Moderate
	Glandular	Leukemia Mononuclear	
	Forestomach	Ulcer	Marked

Note: ULCER TGLs = 7-15.1

[ Ulcer TGLS = 8-15 ]

Thymus		Leukemia Mononuclear	
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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16672

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16672

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Mild
Brain		Compression	
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Rectum	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Mild
		Pigmentation	Cholesterol, Mild
Note: PIGMENT TGLs = 2-4 [ Pigmentation TGLS = 2-4 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Moderate
		Fibroadenoma	
[ Fibroadenoma TGLS = 1-15 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16672

TRT#: 4

SEX: Female

DAY ON TEST: 732

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16672

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Foreign Body	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
	Duct	Ectasia	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 3-1,4-1		
Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16673

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16673

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Minimal
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 1-12		
Liver		Focal Cellular Change	
	Portal	Inflammation	Chronic, Mild
		Necrosis	Mild
Note: FOCAL CELL CH	TGLs = 2-15		
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
	Alveolus	Mineralization	Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Note: MESENTERIC L.N. NORMAL		
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Nasolacrim Dct	Hemorrhage	Minimal
	Mucosa	Inflammation	Acute, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

---

**ANIMAL ID:** 16673

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16673

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland Note: ADENOMA      TGLs = 3-1	Pars Distalis	Adenoma	
Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16674

TRT#: 4

SEX: Female

DAY ON TEST: 733

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16674

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Moderate
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Note: INFLAMMATION TGLs = 1-15			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Note: REGIONAL L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Respirat Epith	Erosion	Mild
	Lumen	Foreign Body	Mild
	Lumen	Hemorrhage	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

---

**ANIMAL ID:** 16674

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16674

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Mucosa	Inflammation	Acute, Mild
	Respirat Epith	Metaplasia	Squamous, Mild
Pituitary Gland	Pars Distalis	Hemorrhage	Moderate
Note: HEMORRHAGE	TGLs = 3-1		
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Uterus	Endometrium	Polyp Stromal	
Note: POLYP STROMAL	TGLs = 2-15.1		
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16675

TRT#: 4

SEX: Female

DAY ON TEST: 655

DOSE: 0 PPM

DISP: Dead

HISTO: 16675

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Brain		Hemorrhage	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Minimal
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH			
Lung		Congestion	Moderate
		Hemorrhage	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Note: CONGESTION TGLs = 3-4			
Note: LEUKEMIA MONUC TGLs = 3-4			
Lymph Node	Mandibular	Congestion	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16675

TRT#: 4

SEX: Female

DAY ON TEST: 655

DOSE: 0 PPM

DISP: Dead

HISTO: 16675

ORGAN AND ACCOUNTABLE SITE STATUS

Mammary Gland	Mandibular Mesenteric Duct	Hyperplasia Leukemia Mononuclear Ectasia Fibroadenoma	Lymphoid, Mild  Mild
[ Fibroadenoma TGLS = 1-15 ]			
Nose	Olfactory Epi Lumen	Degeneration Hemorrhage	Minimal Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis Pars Distalis	Adenoma Hemorrhage	Marked
Note: HEMORRHAGE TGLs = 4-1 Note: ADENOMA TGLs = 4-1			
Spleen		Hematopoietic Cell Proliferation Leukemia Mononuclear Pigmentation	Mild  Minimal
[ Hematopoietic Cell Proliferation TGLS = 2-12 ]			
Thymus		Congestion	Moderate
Thyroid Gland	C Cell	Adenoma Hemorrhage Leukemia Mononuclear	Moderate

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16677

TRT#: 4

SEX: Female

DAY ON TEST: 729

DOSE: 0 PPM

DISP: Terminal Sacrifice

HISTO: 16677

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	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	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Marked
[ Myelofibrosis TGLS = 1-14 ]			
Clitoral Gland		Inflammation	Chronic Active, Moderate
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA			
TGLs = 2-1			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16677

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 0 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16677

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Spleen

Hematopoietic Cell Proliferation

Moderate

Pigmentation

Minimal

Thyroid Gland

C Cell

Hyperplasia

Minimal

---

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16678

TRT#: 4

SEX: Female

DAY ON TEST: 722

DOSE: 0 PPM

DISP: Moribund

HISTO: 16678

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Clitoral Gland	Esophagus
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thyroid Gland
Trachea	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Mild
		Inflammation	Acute, Marked
	Ventricle	Thrombosis	
Note: THROMBUS--BACTERIAL			
Intestine Large	Cecum	Inflammation	Acute, Mild
Intestine Small	Duodenum	Erosion	Moderate
Kidney		Inflammation	Acute, Moderate
		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Moderate
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Moderate
		Leukemia Mononuclear	
	Arteriole	Thrombosis	
Note: LEUKEMIA--CAUSE OF DEATH [ Inflammation TGLS = 2-11 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16678

TRT#: 4

DOSE: 0 PPM

SEX: Female

DISP: Moribund

DAY ON TEST: 722

HISTO: 16678

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mandibular	Inflammation	Acute, Marked
		Inflammation	Acute, Marked
	Mesenteric	Leukemia Mononuclear	
Note: INFLAM. IN REGIONAL L.N. FOR FIBROADENOMA			
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
		Fibroadenoma	
		Inflammation	Acute, Mild
[ Fibroadenoma TGLS = 1-15.2 ]			
Nose	Olfactory Epi	Degeneration	Mild
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Leukemia Mononuclear	
Note: ADENOMA TGLs = 5-1			
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Note: LEUKEMIA MONUC TGLs = 3-12			
Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Erosion	Moderate
	Glandular, Mucosa	Ulcer	Mild
Note: EROSION TGLs = 6-15.1+6+6.1			
Thymus	Mediastinum	Inflammation	Chronic Active, Marked
		Leukemia Mononuclear	
Note: INFLAMMATION TGLs = 4-15			
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16679

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Dead

HISTO: 16679

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Islets, Pancreatic	Skin	Stomach - Forestomach	

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone			
Note: STERNUM IN PLACE OF FEMUR			
Bone Marrow		Leukemia Mononuclear	
Brain		Leukemia Mononuclear	
Clitoral Gland		Inflammation	Chronic, Minimal
Esophagus		Carcinoma	Metastatic (Thyroid Gland)
Note: INFILTRATED BY C CELL CARCINOMA			
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 3-12			
Note: LEUKEMIA MONUC TGLs = 3-12			
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
	Venule	Thrombosis	
Note: LEUKEMIA--CAUSE OF DEATH			
Note: THROMBUS TGLs = 2-15.1			
Lung		Carcinoma	Metastatic (Thyroid Gland)

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16679

TRT#: 4

SEX: Female

DAY ON TEST: 730

DOSE: 0 PPM

DISP: Dead

HISTO: 16679

ORGAN AND ACCOUNTABLE SITE STATUS

		Congestion	Moderate
	Alveolus	Infiltration Cellular	Histiocyte, Moderate
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic Active, Moderate
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Note: CONGESTION	TGLs = 6-4+15.2		
Note: CARCINOMA	TGLs = 5-15.2		
Note: LEUKEMIA MONUC	TGLs = 6-4+15.2		
Lymph Node	Mandibular	Carcinoma	Metastatic (Thyroid Gland)
	Mediastinal	Hemorrhage	Marked
	Mesenteric	Leukemia Mononuclear	
Note: HEMORRHAGE	TGLs = 7-15.5		
Note: MANDIBULAR L.N.--REGIONAL FOR C CELL CARCINOMA			
Mammary Gland	Acinus	Ectasia	Moderate
	Duct	Ectasia	Moderate
	Acinus	Hyperplasia	Moderate
Note: HYPERPLASIA--BLOCK 6.1			
Nose	Lumen	Foreign Body	Moderate
	Mucosa	Inflammation	Acute, Marked
Ovary		Leukemia Mononuclear	
Pancreas	Acinus	Hyperplasia	Moderate
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Leukemia Mononuclear	
Note: ADENOMA	TGLs = 9-1		
Salivary Glands		Leukemia Mononuclear	
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
[ Hematopoietic Cell Proliferation TGLS = 1-12 ]			
Stomach	Glandular, Mucosa	Erosion	Moderate
	Glandular	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

**ANIMAL ID:** 16679

**TRT#:** 4

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 0 PPM

**DISP:** Dead

**HISTO:** 16679

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: EROSION Thymus	TGLs = 10-15+6		Congestion	Mild
Thyroid Gland Note: CARCINOMA	TGLs = 4-15.3	C Cell	Leukemia Mononuclear Carcinoma	
Trachea			Carcinoma	Metastatic (Thyroid Gland)
Urinary Bladder			Leukemia Mononuclear	
Uterus			Leukemia Mononuclear	
Vagina Note: INFLAMMATION	TGLs = 8-15.4		Inflammation	Chronic Active, Moderate
PRIMARY CAUSE OF DEATH		-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16740

TRT#: 5

SEX: Female

DAY ON TEST: 681

DOSE: 600 PPM

DISP: Moribund

HISTO: 16740

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	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
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Hypertrophy	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
		Myelofibrosis	Mild
Clitoral Gland		Inflammation	Chronic, Mild
	Heart	Cardiomyopathy	Chronic, Mild
Kidney		Leukemia Mononuclear	
		Leukemia Mononuclear	
		Nephropathy	Chronic, Minimal
	Renal Tubule	Pigmentation	Mild
	Liver	Bile Duct	Hyperplasia
Portal		Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung [ Hyperplasia TGLS = 2-11 ]		Infiltration Cellular	Lymphocyte, Mild
	Peribronchiolr	Inflammation	Chronic, Marked
		Leukemia Mononuclear	
Lymph Node	Note: LEUKEMIA--CAUSE OF DEATH		
	Note: LEUKEMIA MONUC TGLs = 4-4		
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16740

TRT#: 5

SEX: Female

DAY ON TEST: 681

DOSE: 600 PPM

DISP: Moribund

HISTO: 16740

ORGAN AND ACCOUNTABLE SITE STATUS

	Mandibular	Leukemia Mononuclear	
	Mediastinal	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-15		
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Minimal
Pituitary Gland	Mucosa	Inflammation	Acute, Minimal
	Pars Distalis	Angiectasis	Mild
	Pars Distalis	Hyperplasia	Moderate
Note: [ HYPERPLASIA ]	TGLs = 6-1		
Spleen		Hematopoietic Cell Proliferation	Minimal
		Leukemia Mononuclear	
[ Hematopoietic Cell Proliferation	TGLS = 1-12 ]		
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	
	Forestomach	Ulcer	Marked
Note: ULCER	TGLs = 8-6		
Note: GLANDULAR FOCI NOT FOUND ON WET TISSUE REVIEW			
Uterus		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16741

TRT#: 5

SEX: Female

DAY ON TEST: 457

DOSE: 600 PPM

DISP: Moribund

HISTO: 16741

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Pancreas	Salivary Glands	Skin
Thyroid Gland	Trachea	Urinary Bladder	Uterus

MISSING

Lymph Node - Mandibular	Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Brain		Hydrocephalus	Moderate
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Moderate
Note: ECTASIA	TGLs = 1-7		
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Moderate
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA--CAUSE OF DEATH			
Note: ADENOMA	TGLs = 3-1		
Spleen		Hematopoietic Cell Proliferation	Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:53  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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**ANIMAL ID:** 16741

**TRT#:** 5  
**DOSE:** 600 PPM

**SEX:** Female  
**DISP:** Moribund

**DAY ON TEST:** 457  
**HISTO:** 16741

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Glandular, Mucosa	Pigmentation	Moderate
	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Erosion	Mild
	Forestomach	Hyperkeratosis	Mild
		Inflammation	Chronic Active, Moderate
[ Erosion TGLS = 2-15 ]			
Thymus		Cyst	

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16742

TRT#: 5

SEX: Female

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16742

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	Vagina

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Eye		Cataract	Moderate
	Retina	Degeneration	Marked
		Hemorrhage	Moderate
Note: CATARACT	TGLs = 1-15		
Note: DEGEN	TGLs = 1-15		
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 4-12		
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
Note: ANGIECTASIS IN RECUT--SLIDE 11.1			
Note: ANGIECTASIS	TGLs = 3-11.1		
Lung		Hemorrhage	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
Note: HEMORRHAGE	TGLs = 2-4		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16742

TRT#: 5

SEX: Female

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16742

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Marked
	Duct	Ectasia	Moderate
Mesentery	Fat	Necrosis	Marked
Note: NECROSIS	TGLs = 5-15.1		
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Respirat Epith	Erosion	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 6-1		
Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16743

TRT#: 5

SEX: Female

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16743

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone Marrow	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Pancreas	Parathyroid Gland	Pituitary Gland	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Bone	Cranium	Osteopetrosis	Marked
	Femur	Osteopetrosis	Marked
Note: OSTEOPETROSIS	TGLs = 1-14		
Note: OSTEOPETROSIS	TGLs = 1-14.1+14.2+14.3		
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Rectum	Parasite Metazoan	
Kidney	Renal Tubule	Nephropathy	Chronic, Minimal
		Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Note: INFLAMMATION	TGLs = 2-4		
Note: INFILTRAT CELL	TGLs = 2-4		
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16743

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16743

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Moderate
Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16744

TRT#: 5

SEX: Female

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16744

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
[ Focal Cellular Change TGLS = 2-11 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Peribronchiolr	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Note: INFLAMMATION TGLs = 1-4			
Note: INFILTRAT CELL TGLs = 1-4			
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16744

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16744

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas	Mucosa	Inflammation	Acute, Minimal
Pituitary Gland	Acinus	Atrophy	Mild
Spleen	Pars Distalis	Adenoma	
		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16745

TRT#: 5

SEX: Female

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16745

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Esophagus	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	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Adenoma	
Note: [ ADENOMA ] TGLs = 7-5.1			
Eye	Retina	Degeneration	Marked
	Sclera	Mineralization	Mild
Note: DEGEN TGLs = 5-15			
Heart		Cardiomyopathy	Chronic, Minimal
Intestine Large	Cecum	Inflammation	Acute, Moderate
Note: INFLAMMATION TGLs = 6-15.3			
Note: RECUT NONCONTRIBUTORY			
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Note: RECUT/WT SEARCH NONCONTRIBUTORY			
[ Hepatocellular Adenoma TGLS = 1-15.1 ]			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:53  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

<b>ANIMAL ID:</b> 16745	<b>TRT#:</b> 5 <b>DOSE:</b> 600 PPM	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 732 <b>HISTO:</b> 16745
<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
Mammary Gland	Mesenteric	Leukemia Mononuclear Adenocarcinoma	
	Acinus	Ectasia	Mild
	Duct	Ectasia	Moderate
Note: ADENOCARC Nose	TGLs = 3-15.2		
	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Moderate
	Lumen	Hemorrhage	Marked
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA Spleen	TGLs = 4-1		
		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16747

TRT#: 5

SEX: Female

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16747

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
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	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Marked
	Cortex	Hemorrhage	Marked
	Cortex	Pigmentation	Mild
Brain		Hemorrhage	Minimal
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Note: INFILTRAT CELL	TGLs = 2-4		
Note: INFLAMMATION	TGLs = 2-4		
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Moderate
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16747

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16747

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Mucosa	Inflammation	Mild
	Acinus	Atrophy	Marked
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
Note: [ HYPERPLASIA ] TGLs = 3-1			
Spleen		Fibrosis	Moderate
		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
[ Fibrosis TGLS = 1-15 ]			
Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Marked
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16748

TRT#: 5

SEX: Female

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16748

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Developmental Malformation	
		Focal Cellular Change	
		Granuloma	Mild
		Hematopoietic Cell Proliferation	Minimal
	Portal	Inflammation	Chronic, Mild
[ Developmental Malformation TGLS = 1-15 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate

Note: [ HYPERPLASIA ] TGLs = 2-1

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:53  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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**ANIMAL ID:** 16748

**TRT#:** 5  
**DOSE:** 600 PPM

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 733  
**HISTO:** 16748

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16750

TRT#: 5

SEX: Female

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16750

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Medulla	Hyperplasia	Moderate
	Cortex	Hypertrophy	Mild
	Cortex	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic Active, Mild
	Heart	Cardiomyopathy	Chronic, Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Minimal
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Note: LEUKEMIA MONUC TGLs = 2-4			
Lymph Node	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Duct	Ectasia	Mild
	Nose	Olfactory Epi	Moderate
		Degeneration	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16750

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16750

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland Note: CYST TGLs = 4-1	Respirat Epith Pars Distalis	Degeneration Cyst	Moderate
Spleen Note: LEUKEMIA MONUC TGLs = 3-12		Leukemia Mononuclear Pigmentation	Minimal
Stomach	Glandular, Mucosa Glandular, Mucosa	Dilatation Erosion	Mild Mild
Thymus Thyroid Gland	C Cell	Leukemia Mononuclear Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16751

TRT#: 5

SEX: Female

DAY ON TEST: 554

DOSE: 600 PPM

DISP: Dead

HISTO: 16751

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Esophagus	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Pancreas	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hematopoietic Cell Proliferation	Minimal
	Cortex	Pigmentation	Mild
Clitoral Gland		Adenoma	
[ Adenoma TGLS = 1-15 ]			
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Cecum	Inflammation	Acute, Moderate
	Colon	Inflammation	Acute, Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Necrosis	Marked
Note: NECROSIS TGLs = 3-11			
Note: NECROSIS--CAUSE OF DEATH			
Lung		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Inflammation	Acute, Moderate
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Minimal
	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Moderate
Spleen		Hematopoietic Cell Proliferation	Marked

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16751

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 554

**DOSE:** 600 PPM

**DISP:** Dead

**HISTO:** 16751

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Glandular, Mucosa	Pigmentation	Mild
Thyroid Gland	C Cell	Dilatation	Mild
Uterus		Hyperplasia	Mild
		Ectasia	Mild

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16752

TRT#: 5

SEX: Female

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16752

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
[ Infiltration Cellular TGLS = 1-4 ]			
Lymph Node	Mandibular	Congestion	Moderate
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Moderate
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Moderate
Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Distalis	Angiectasis	Mild
	Pars Distalis	Cyst	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16752

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16752

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: [ HYPERPLASIA ] TGLs = 2-1

Skin

Note: INFLAMMATION--BLOCK 14.2

Spleen

Pars Distalis

Lip

Hyperplasia

Inflammation

Hematopoietic Cell Proliferation

Pigmentation

Moderate

Chronic Active, Mild

Mild

Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16753

TRT#: 5

SEX: Female

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16753

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Trachea
Urinary Bladder	Uterus		

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic Active, Marked
Note: INFLAMMATION	TGLs = 3-5.2		
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Congestion	Mild
		Focal Cellular Change	
	Portal	Inflammation	Chronic, Minimal
[ Inflammation TGLS = 2-11 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Peribronchiolr	Inflammation	Chronic, Minimal
Note: INFLAMMATION	TGLs = 1-4		
Note: INFILTRAT CELL	TGLs = 1-4		
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Moderate

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16753

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16753

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 4-1		
Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild
Thyroid Gland	C Cell	Adenoma	

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16754

TRT#: 5

SEX: Female

DAY ON TEST: 553

DOSE: 600 PPM

DISP: Dead

HISTO: 16754

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Esophagus	Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Pancreas	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
		Hemorrhage	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Moderate
Intestine Large	Colon	Parasite Metazoan	
Kidney	Renal Tubule	Hypertrophy	Mild
		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Granuloma	Mild
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
Lung		Congestion	Marked
		Hemorrhage	Moderate
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
		[ Congestion TGLS = 1-4 ]	
		[ Hemorrhage TGLS = 1-4 ]	
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Moderate
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

**ANIMAL ID:** 16754

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 553

**DOSE:** 600 PPM

**DISP:** Dead

**HISTO:** 16754

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland Note: ADENOMA TGLs = 3-1 Note: ADENOMA--CAUSE OF DEATH	Mucosa Pars Distalis	Inflammation Adenoma	Acute, Mild
Spleen		Hematopoietic Cell Proliferation Pigmentation	Minimal Moderate
Stomach Thymus	Glandular, Mucosa	Dilatation Congestion Hyperplasia	Mild Marked Lymphoid, Moderate
Thyroid Gland Uterus Note: POLYP STROMAL TGLs = 2-15	C Cell Endometrium	Adenoma Polyp Stromal	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16755

TRT#: 5

SEX: Female

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16755

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney	Renal Tubule	Nephropathy	Chronic, Moderate
		Pigmentation	Mild
[ Nephropathy TGLS = 1-12 ]			
[ Pigmentation TGLS = 1-12 ]			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Moderate
	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Moderate

Note: CYST TGLs = 2-1

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16755

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16755

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: [ HYPERPLASIA ] TGLs = 2-1

Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild
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: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16756

TRT#: 5

SEX: Female

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16756

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Clitoral Gland	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
Thymus	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Esophagus		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Peribronchiolr	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
		Fibroadenoma	
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Moderate
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Note: HYPERPLASIA	TGLs = 1-1		
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16756

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16756

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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: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16757

TRT#: 5

SEX: Female

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16757

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
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		

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Clitoral Gland		Adenoma	
		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Rectum	Parasite Metazoan	
	Rectum	Ulcer	Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

**ANIMAL ID:** 16757

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16757

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Mucosa Pars Distalis Pars Distalis	Inflammation Cyst Hyperplasia	Acute, Moderate  Moderate
Note: [ HYPERPLASIA ] TGLs = 1-1 [ Cyst TGLS = 1-1 ]			
Spleen		Hematopoietic Cell Proliferation Pigmentation	Mild Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16758

TRT#: 5

SEX: Female

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16758

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Pancreas	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Mild
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Mild
Note: ADENOMA	TGLs = 4-5.2		
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Rectum	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Developmental Malformation	
		Focal Cellular Change	
	Bile Duct	Granuloma	Mild
	Portal	Hyperplasia	Mild
		Inflammation	Chronic, Mild
[ Inflammation TGLS = 1-15 ]			
Lung		Hemorrhage	Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Minimal
Note: HEMORRHAGE	TGLs = 3-4		
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16758

TRT#: 5

SEX: Female

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16758

ORGAN AND ACCOUNTABLE SITE STATUS

Note: REGIONAL L.N. FOR THYROID--HYPERPLASTIC

Mammary Gland

Acinus

Ectasia

Mild

Duct

Ectasia

Mild

Nose

Olfactory Epi

Degeneration

Mild

Respirat Epith

Degeneration

Minimal

Lumen

Hemorrhage

Mild

Mucosa

Inflammation

Acute, Mild

Pars Intermed

Angiectasis

Moderate

Pituitary Gland

Note: ANGIECTASIS TGLs = 5-1

Spleen

Hematopoietic Cell Proliferation

Marked

Pigmentation

Mild

Stomach

Glandular, Mucosa

Dilatation

Mild

Thyroid Gland

C Cell

Adenoma

Note: ADENOMA TGLs = 2-2

Uterus

Endometrium

Inflammation

Chronic, Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16759

TRT#: 5

SEX: Female

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16759

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Trachea	Urinary Bladder
Uterus			

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 3-12		
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Moderate
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N. FOR FIBROADENOMA--HYPERPLASTIC			
Mammary Gland	Duct	Ectasia	Mild
		Fibroadenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16759

TRT#: 5

SEX: Female

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16759

ORGAN AND ACCOUNTABLE SITE STATUS

[ Fibroadenoma TGLS = 1-15 ]

Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Moderate
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Moderate
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Angiectasis	Moderate
	Pars Distalis	Metaplasia	Osseous, Mild
Note: [ ANGIECTASIS ] TGLs = 4-1			
Spleen		Hematopoietic Cell Proliferation	Marked
		Pigmentation	Moderate
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Carcinoma	
	C Cell	Hyperplasia	Mild

Note: [ CARCINOMA ] TGLs = 2-2

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16760

TRT#: 5

SEX: Female

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16760

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder	Uterus		

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Granuloma	Mild
	Portal	Inflammation	Chronic, Mild
		Hemorrhage	Minimal
		Infiltration Cellular	Mild
	Arteriole	Mineralization	Mild
Note: HEMORRHAGE	TGLs = 1-4		
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

---

**ANIMAL ID:** 16760

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16760

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen	Pars Distalis	Cyst	Moderate
		Hematopoietic Cell Proliferation	
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Carcinoma	
	C Cell	Hyperplasia	Mild

Note: [ CARCINOMA ] TGLs = 2-2

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16761

TRT#: 5

SEX: Female

DAY ON TEST: 658

DOSE: 600 PPM

DISP: Moribund

HISTO: 16761

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Thymus	Trachea
Urinary Bladder	Uterus	Vagina	

MISSING

Adrenal Gland - Medulla

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Note: HYPERPLASIA FOUND IN RECUT			
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Fatty Change	Moderate
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
Note: FATTY CHANGE TGLs = 2-11+15.1			
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Marked
	Duct	Ectasia	Moderate
[ Ectasia TGLS = 1-15 ]			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16761

TRT#: 5

SEX: Female

DAY ON TEST: 658

DOSE: 600 PPM

DISP: Moribund

HISTO: 16761

ORGAN AND ACCOUNTABLE SITE STATUS

Pituitary Gland	Lumen	Hemorrhage	Mild
Note: ADENOMA TGLs = 3-1	Mucosa	Inflammation	Acute, Mild
Note: ADENOMA--CAUSE OF DEATH	Pars Distalis	Adenoma	
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Moderate
Stomach	Glandular, Mucosa	Dilatation	Mild
Note: ULCER TGLs = 4-6+15.1+6.1	Forestomach	Ulcer	Moderate
Thyroid Gland	C Cell	Adenoma	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16762

TRT#: 5

SEX: Female

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16762

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Mammary Gland	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Cortex	Pigmentation	Mild
Brain		Hemorrhage	Mild
Clitoral Gland		Inflammation	Chronic Active, Moderate
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 1-12		
Liver		Focal Cellular Change	
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Erosion	Mild
	Mucosa	Inflammation	Acute, Moderate
	Olfactory Epi	Metaplasia	Squamous, Mild
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16762

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16762

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA      TGLs = 2-1

Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	Follicle	Ectasia	Mild
	C Cell	Hyperplasia	Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16765

TRT#: 5

SEX: Female

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16765

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	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	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Minimal
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Angiectasis	Moderate
		Focal Cellular Change	
	Portal	Inflammation	Chronic, Mild
Note: ANGIECTASIS TGLs = 1-11.1			
Note: ANGIECTASIS IN RECUT--BLOCK 11.1			
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
Note: [ HYPERPLASIA ] TGLs = 2-1			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:53  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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**ANIMAL ID:** 16765

**TRT#:** 5  
**DOSE:** 600 PPM

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 729  
**HISTO:** 16765

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen

Hematopoietic Cell Proliferation  
Hyperplasia  
Pigmentation

Mild  
Lymphoid, Mild  
Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16766

TRT#: 5

SEX: Female

DAY ON TEST: 653

DOSE: 600 PPM

DISP: Moribund

HISTO: 16766

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Bone Marrow	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	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Mild
	Cortex	Hypertrophy	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Blood		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-16		
Brain		Leukemia Mononuclear	
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Minimal
	Renal Tubule	Pigmentation	Mild
Note: PIGMENT	TGLs = 3-12		
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 2-11		
Lung		Hemorrhage	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16766

TRT#: 5

SEX: Female

DAY ON TEST: 653

DOSE: 600 PPM

DISP: Moribund

HISTO: 16766

ORGAN AND ACCOUNTABLE SITE STATUS

Lymph Node	Mandibular Mediastinal	Congestion Leukemia Mononuclear Leukemia Mononuclear Leukemia Mononuclear	Mild
Note: LEUKEMIA MONUC TGLs = 6-15 Note: LEUKEMIA MONUC TGLs = 4-3.2 Note: CONGESTION TGLs = 4-3.2			
Mammary Gland	Acinus Duct	Ectasia Ectasia	Marked Mild
Nose	Olfactory Epi Respirat Epith Lumen	Degeneration Degeneration Hemorrhage	Mild Minimal Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Note: [ HYPERPLASIA ] TGLs = 7-1			
Spleen		Hematopoietic Cell Proliferation Leukemia Mononuclear	Mild
Note: LEUKEMIA--CAUSE OF DEATH [ Hematopoietic Cell Proliferation TGLS = 1-12 ]			
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16767

TRT#: 5

SEX: Female

DAY ON TEST: 653

DOSE: 600 PPM

DISP: Dead

HISTO: 16767

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Brain		Hemorrhage	Minimal
Clitoral Gland		Hyperplasia	Mild
		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Congestion	Moderate
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
[ Congestion TGLS = 1-4 ]			
Lymph Node	Mandibular	Congestion	Mild
	Mediastinal	Congestion	Mild
	Mesenteric	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mediastinal	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16767

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 653

**DOSE:** 600 PPM

**DISP:** Dead

**HISTO:** 16767

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Marked
Pituitary Gland	Pars Distalis	Cyst	
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Moderate
Thyroid Gland	C Cell	Adenoma	

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**PRIMARY CAUSE OF DEATH**

-

**Animal Note:** CAUSE OF DEATH UNKNOWN

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16768

TRT#: 5

SEX: Female

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16768

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Minimal
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Rectum	Parasite Metazoan	
Kidney	Renal Tubule	Nephropathy	Chronic, Moderate
		Pigmentation	Mild
Note: NEPHROPATHY TGLs = 3-12			
Liver		Developmental Malformation	
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
[ Developmental Malformation TGLS = 2-15.1 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

**ANIMAL ID:** 16768

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16768

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
	Olfactory Epi	Metaplasia	Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 4-1		
Spleen		Fibrosis	Moderate
		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild
[ Fibrosis TGLS = 1-15 ]			
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16770

TRT#: 5

SEX: Female

DAY ON TEST: 717

DOSE: 600 PPM

DISP: Moribund

HISTO: 16770

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
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	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Brain		Hydrocephalus	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Eye		Cataract	Moderate
	Retina	Degeneration	Marked
	Sclera	Mineralization	Moderate
Note: DEGEN	TGLs = 2-15.1		
Note: CATARACT	TGLs = 2-15.1		
Heart		Cardiomyopathy	Chronic, Mild
Kidney	Renal Tubule	Hyperplasia	Minimal
		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Adenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16770

TRT#: 5

SEX: Female

DAY ON TEST: 717

DOSE: 600 PPM

DISP: Moribund

HISTO: 16770

ORGAN AND ACCOUNTABLE SITE STATUS

	Acinus	Ectasia	Marked
	Duct	Ectasia	Mild
[ Adenoma TGLS = 1-15 ]			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Mild
	Respirat Epith	Metaplasia	Squamous, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 3-1			
Note: ADENOMA--CAUSE OF DEATH			
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Note: LEUKEMIA--CAUSE OF DEATH			
Stomach	Glandular, Mucosa	Dilatation	Minimal
	Forestomach	Inflammation	Acute, Mild
Thymus		Cyst	
		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16771

TRT#: 5

SEX: Female

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16771

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
[ Inflammation TGLS = 1-4 ]			
Lymph Node	Mesenteric	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16771

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16771

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Stomach

Glandular, Mucosa

Dilatation

Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16772

TRT#: 5

SEX: Female

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16772

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Erosion	Mild
	Mucosa	Inflammation	Acute, Moderate
Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-1 ]			
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16772

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16772

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach	Glandular, Mucosa	Dilatation	Minimal
Thyroid Gland	C Cell	Hyperplasia	Mild
Trachea		Inflammation	Chronic Active, Mild

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16773

TRT#: 5

SEX: Female

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16773

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney	Pelvis	Calculus Micro Observation Only	
		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Minimal
	Mesenteric	Hyperplasia	Lymphoid, Mild
	Mediastinal	Lymphoma Malignant Histiocytic	
	[ Lymphoma Malignant Histiocytic TGLS = 1-15 ]		
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Moderate
	Lumen	Foreign Body	Mild
	Lumen	Hemorrhage	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16773

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16773

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland	Mucosa	Inflammation	Acute, Mild
Note: [ HYPERPLASIA ] TGLs = 2-1	Pars Distalis	Hyperplasia	Moderate
Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Moderate
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	Follicle	Ectasia	Mild
	C Cell	Hyperplasia	Minimal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16774

TRT#: 5

SEX: Female

DAY ON TEST: 537

DOSE: 600 PPM

DISP: Moribund

HISTO: 16774

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Islets, Pancreatic	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Minimal
Brain		Compression	
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Chronic, Mild
Intestine Small	Duodenum	Edema	Moderate
	Ileum	Edema	Moderate
	Jejunum	Edema	Moderate
	Ileum	Ulcer	Moderate
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Cyst	
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Lumen	Hemorrhage	Minimal
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16774

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 537

**DOSE:** 600 PPM

**DISP:** Moribund

**HISTO:** 16774

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA--CAUSE OF DEATH

[ Adenoma TGLS = 1-1 ]

Spleen

Hematopoietic Cell Proliferation

Mild

Pigmentation

Mild

Uterus

Endometrium

Polyp Stromal

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16775

TRT#: 5

SEX: Female

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16775

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Parathyroid Gland	Salivary Glands
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Islets, Pancreatic		Carcinoma	
	[ Carcinoma TGLS = 1-15 ]		
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Minimal
	[ Nephropathy TGLS = 2-12 ]		
Liver		Focal Cellular Change	
		Granuloma	Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
	Acinus	Hyperplasia	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 3-1		
Skin	Head	Inflammation	Chronic Active, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16775

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16775

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen

Hematopoietic Cell Proliferation

Mild

Pigmentation

Mild

Stomach

Glandular, Mucosa

Dilatation

Mild

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16776

TRT#: 5

SEX: Female

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16776

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic Active, Moderate
	Heart	Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver	Note: NEPHROPATHY TGLs = 1-12	Fatty Change	Minimal
		Focal Cellular Change	
Lung	Portal	Granuloma	Minimal
	Alveolus	Inflammation	Chronic, Minimal
		Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Minimal
Lymph Node	Mesenteric	Metaplasia	Osseous, Mild
	Mandibular	Congestion	Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Hyperplasia	Lymphoid, Mild
	Duct	Ectasia	Mild
	Acinus	Ectasia	Mild
Nose	Acinus	Hyperplasia	Mild
	Olfactory Epi	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:53  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16776	<b>TRT#:</b> 5 <b>DOSE:</b> 600 PPM	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 732 <b>HISTO:</b> 16776
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas	Respirat Epith Lumen Mucosa Acinus Acinus	Degeneration Hemorrhage Inflammation Atrophy Hyperplasia	Minimal Minimal Acute, Mild Mild Mild
Pituitary Gland	Pars Distalis Pars Distalis	Adenoma Cyst	
Note: ADENOMA      TGLs = 2,3-1			
Spleen		Hematopoietic Cell Proliferation Pigmentation	Mild Mild
Thyroid Gland	C Cell	Hyperplasia	Mild
Tooth	Pulp	Inflammation	Chronic Active, Marked
Note: INFLAMMATION--BLOCK 14.2			

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16778

TRT#: 5

SEX: Female

DAY ON TEST: 676

DOSE: 600 PPM

DISP: Moribund

HISTO: 16778

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Esophagus	Intestine Large - Cecum
Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Jejunum	Islets, Pancreatic
Pancreas	Salivary Glands	Skin	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Minimal
Bone Marrow		Leukemia Mononuclear	
Brain		Compression	
		Hemorrhage	Marked
		Leukemia Mononuclear	
Note: HEMORRHAGE	TGLs = 6-15.2+10		
Clitoral Gland		Hyperplasia	Mild
		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Minimal
		Leukemia Mononuclear	
Intestine Small	Duodenum	Erosion	Moderate
	Duodenum	Leukemia Mononuclear	
	Ileum	Leukemia Mononuclear	
Note: EROSION--BLOCK 6			
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 3-12		
Note: PIGMENT	TGLs = 3-12		
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16778	TRT#: 5 DOSE: 600 PPM	SEX: Female DISP: Moribund	DAY ON TEST: 676 HISTO: 16778
<b>ORGAN AND ACCOUNTABLE SITE STATUS</b>			
	Portal	Inflammation Leukemia Mononuclear	Chronic, Mild
Note: LEUKEMIA MONUC TGLs = 2-11 Note: LEUKEMIA--CAUSE OF DEATH			
Lung	Peribronchiolr	Infiltration Cellular Inflammation Leukemia Mononuclear	Lymphocyte, Mild Acute, Minimal
Lymph Node	Arteriole Mandibular Mesenteric	Mineralization Hyperplasia Leukemia Mononuclear	Mild Lymphoid, Mild
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi Respirat Epith Lumen Mucosa Nasolacrim Dct	Degeneration Degeneration Hemorrhage Inflammation Inflammation	Mild Minimal Moderate Acute, Mild Acute, Minimal
Ovary		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 4-1			
Spleen	Capsule	Fibrosis Hematopoietic Cell Proliferation Leukemia Mononuclear Pigmentation	Moderate Mild Minimal
Note: LEUKEMIA MONUC TGLs = 1-12+15.1 Note: FIBROSIS TGLs = 7-12+15.1			
Stomach	Glandular, Mucosa Forestomach Glandular Forestomach	Erosion Inflammation Inflammation Ulcer	Mild Acute, Marked Acute, Moderate Marked
[ Erosion TGLS = 5-6 ]			
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16779

TRT#: 5

SEX: Female

DAY ON TEST: 711

DOSE: 600 PPM

DISP: Dead

HISTO: 16779

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Mammary Gland	Parathyroid Gland	Salivary Glands
Skin	Stomach - Glandular	Thymus	Thyroid Gland
Trachea	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Moderate
		Leukemia Mononuclear	
	Atrium	Thrombosis	
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Angiectasis	Mild
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: ANGIECTASIS TGLs = 5-11 [ Angiectasis TGLs = 6-11 ]			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Lymph Node	Arteriole	Mineralization	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16779

TRT#: 5

SEX: Female

DAY ON TEST: 711

DOSE: 600 PPM

DISP: Dead

HISTO: 16779

ORGAN AND ACCOUNTABLE SITE STATUS

Ovary	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Atrophy	Mild
Note: HYPERPLASIA TGLs = 7-1		Hyperplasia	Mild
Spleen	Capsule	Fibrosis	Moderate
		Hematopoietic Cell Proliferation	Minimal
		Infarct	Marked
		Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH [ Fibrosis TGLS = 3-15 ] [ Infarct TGLS = 4-15 ] [ Leukemia Mononuclear TGLS = 2-12+15 ]			
Stomach	Forestomach	Hyperplasia	Squamous, Mild
Note: HYPERPLASIA IN RECUT BLOCK 15			
Note: HYPERPLASIA TGLs = 8-15			
Urinary Bladder		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16780

TRT#: 5

SEX: Female

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16780

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Salivary Glands	Stomach - Forestomach	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Rectum	Parasite Metazoan	
Kidney		Leukemia Mononuclear	
	Renal Tubule	Nephropathy	Chronic, Moderate
		Pigmentation	Mild
Liver		Focal Cellular Change	
		Hemorrhage	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
		[ Hyperplasia TGLS = 1-11 ]	
		[ Inflammation TGLS = 2-11 ]	
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16780

TRT#: 5

SEX: Female

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16780

ORGAN AND ACCOUNTABLE SITE STATUS

Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Erosion	Minimal
	Mucosa	Inflammation	Acute, Mild
	Nasolacrim Dct	Inflammation	Chronic Active, Mild
	Periovarn Tiss	Cyst	
Ovary			
Note: CYST	TGLs = 3-5		
Pancreas	Acinus	Hyperplasia	Mild
Pituitary Gland	Pars Intermed	Angiectasis	Moderate
	Pars Distalis	Hyperplasia	Moderate
Note: ANGIECTASIS	TGLs = 6-1		
Note: [ HYPERPLASIA ]	TGLs = 6-1		
Skin	Subcut Tiss	Neurofibrosarcoma	
Note: NEUROFIBROSARC	TGLs = 5-15		
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
Thymus		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16781

TRT#: 5

SEX: Female

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16781

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
	[ Inflammation TGLS = 1-11 ]		
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Moderate
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16781

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16781

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pars Distalis

Cyst

Note: CYST      TGLs = 2-1

Note: ADENOMA      TGLs = 2-1

Spleen

Hematopoietic Cell Proliferation

Mild

Leukemia Mononuclear

Pigmentation

Mild

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: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16782

TRT#: 5

SEX: Female

DAY ON TEST: 679

DOSE: 600 PPM

DISP: Dead

HISTO: 16782

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Ovary	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Stomach - Glandular	Thymus	Trachea
Urinary Bladder			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Minimal
	Medulla	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Congestion	Moderate
		Hemorrhage	Moderate
		Infiltration Cellular	Lymphocyte, Mild
		Mineralization	Mild
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Mucosa	Inflammation	Acute, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

**ANIMAL ID:** 16782

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 679

**DOSE:** 600 PPM

**DISP:** Dead

**HISTO:** 16782

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA--CAUSE OF DEATH [ Adenoma TGLS = 1-1 ]			
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Moderate
Thyroid Gland	Follicle	Ectasia	Mild
Uterus	Endometrium	Hyperplasia	Cystic, Moderate
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16783

TRT#: 5

SEX: Female

DAY ON TEST: 732

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16783

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Eye		Atrophy	Marked
[ Atrophy TGLS = 1-15 ]			
Heart		Cardiomyopathy	Chronic, Mild
Kidney	Renal Tubule	Nephropathy	Chronic, Marked
Note: NEPHROPATHY TGLs = 2-12		Pigmentation	Mild
Liver		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic Active, Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Moderate
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16783

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16783

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 3,4-1		
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16784

TRT#: 5

SEX: Female

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16784

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Trachea
Urinary Bladder			

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Minimal
		Cardiomyopathy	Chronic, Mild
Heart		Nephropathy	Chronic, Mild
Kidney	Renal Tubule	Pigmentation	Mild
		Focal Cellular Change	
Liver		Granuloma	Mild
	Portal	Inflammation	Chronic, Moderate
Lung		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic Active, Mild
	Arteriole	Mineralization	Mild
Note: [ INFLAMMATION ] TGLs = 3-4			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Minimal
	Mucosa	Inflammation	Acute, Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

---

**ANIMAL ID:** 16784

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16784

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas	Acinus	Atrophy	Moderate
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 5-1			
Spleen		Hematopoietic Cell Proliferation	Marked
Note: HEMA CELL PROL TGLs = 4-12			
Thyroid Gland	C Cell	Hyperplasia	Mild
Uterus	Endometrium	Polyp Stromal	
Note: POLYP STROMAL TGLs = 2-15			

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16785

TRT#: 5

SEX: Female

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16785

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Salivary Glands	Skin
Stomach - Forestomach	Trachea	Urinary Bladder	

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Lung	Alveolar Epith	Hyperplasia	Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Note: HYPERPLASIA	TGLs = 1-15.2		
Lymph Node	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
		Leukemia Mononuclear	
Note: LEUKEMIA IN REGIONAL L.N.--STROMAL POLYP			
Mammary Gland	Acinus	Ectasia	Mild
		Fibroadenoma	
Note: FIBROADENOMA	TGLs = 2-15.3		
Nose	Olfactory Epi	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16785

TRT#: 5

SEX: Female

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16785

ORGAN AND ACCOUNTABLE SITE STATUS

	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 4-1		
Spleen		Leukemia Mononuclear	
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Adenoma	
Uterus	Endometrium	Polyp Stromal	
Note: POLYP STROMAL	TGLs = 3-15		
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16786

TRT#: 5

SEX: Female

DAY ON TEST: 681

DOSE: 600 PPM

DISP: Moribund

HISTO: 16786

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
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	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus	Vagina	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY--CAUSE OF DEATH [ Pigmentation TGLS = 1-12 ]			
Liver		Fatty Change	Marked
		Focal Cellular Change	
		Granuloma	Moderate
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Marked
Nose	Olfactory Epi	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16786

TRT#: 5

SEX: Female

DAY ON TEST: 681

DOSE: 600 PPM

DISP: Moribund

HISTO: 16786

ORGAN AND ACCOUNTABLE SITE STATUS

Pituitary Gland	Respirat Epith	Degeneration	Minimal
Note: ADENOMA TGLs = 3-1	Lumen	Hemorrhage	Mild
Note: ADENOMA--CAUSE OF DEATH	Pars Distalis	Adenoma	
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Inflammation	Acute, Marked
	Forestomach	Ulcer	Marked
Note: ULCER TGLs = 4-6+15			
Note: INFLAMMATION TGLs = 4-6+15			
Vagina			
Note: NORMAL CYCLIC CHANGE			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16787

TRT#: 5

SEX: Female

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16787

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Brain	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Islets, Pancreatic
Mammary Gland	Parathyroid Gland	Skin	Trachea

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Medulla	Hyperplasia	Minimal
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Intestine Small	Duodenum	Leukemia Mononuclear	
	Ileum	Leukemia Mononuclear	
	Jejunum	Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-6		
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY	TGLs = 4-12		
Liver		Angiectasis	Mild
	Bile Duct	Hyperplasia	Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 3-11		
Lung		Hemorrhage	Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
[ Hemorrhage TGLS = 2-4 ]			
[ Leukemia Mononuclear TGLS = 2-4 ]			
Lymph Node	Mandibular	Leukemia Mononuclear	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16787

TRT#: 5

SEX: Female

DAY ON TEST: 729

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16787

ORGAN AND ACCOUNTABLE SITE STATUS

Nose	Mesenteric Olfactory Epi Respirat Epith Lumen Nasolacrim Dct	Leukemia Mononuclear Degeneration Degeneration Hemorrhage Inflammation	Mild Minimal Mild Acute, Mild
Ovary		Leukemia Mononuclear	
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Salivary Glands		Leukemia Mononuclear	
Spleen		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-12 ]			
Stomach	Forestomach Forestomach Glandular Forestomach	Hyperplasia Leukemia Mononuclear Leukemia Mononuclear Ulcer	Squamous, Moderate   Marked
Note: ULCER	TGLs = 6-6.1		
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Hyperplasia	Mild
Urinary Bladder		Leukemia Mononuclear	
Uterus	Endometrium	Hyperplasia	Cystic, Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16788

TRT#: 5

SEX: Female

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16788

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Parathyroid Gland
Salivary Glands	Stomach - Forestomach	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Mild
	Cortex	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 2-12			
Liver		Focal Cellular Change	
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-11 ]			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Moderate
	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:53  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16788	<b>TRT#:</b> 5 <b>DOSE:</b> 600 PPM	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 731 <b>HISTO:</b> 16788
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Acinus	Hyperplasia	Mild
Note: ADENOMA	Pars Distalis	Adenoma	
TGLs = 3-1			
Skin	Head, Subcut Tiss	Granuloma	Moderate
Note: BLOCK 14.3			
Spleen		Hematopoietic Cell Proliferation	Moderate
		Leukemia Mononuclear	
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Erosion	Marked
Thymus		Hyperplasia	Lymphoid, Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16790

TRT#: 5

SEX: Female

DAY ON TEST: 414

DOSE: 600 PPM

DISP: Dead

HISTO: 16790

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Blood Vessel	Bone
Bone Marrow	Brain	Clitoral Gland	Esophagus
Intestine Large - Rectum	Liver	Lymph Node - Mandibular	Mammary Gland
Ovary	Parathyroid Gland	Pituitary Gland	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

MISSING

Islets, Pancreatic	Pancreas
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AUTO PRECLUDES DIAG.

Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum	Intestine Small - Ileum
Intestine Small - Jejunum			

OBSERVATIONS

Heart		Cardiomyopathy	Chronic, Mild
Kidney	Renal Tubule	Pigmentation	Minimal
Lung		Congestion	Minimal
	Arteriole	Infiltration Cellular	Lymphocyte, Mild
		Mineralization	Mild
[ Mineralization TGLS = 2-4 ]			
Lymph Node	Renal	Congestion	Moderate
Note: MESENTERIC L.N.--AUTOLYSIS			
Nose	Olfactory Epi	Degeneration	Mild
Spleen		Pigmentation	Mild
Zymbal's Gland		Squamous Cell Carcinoma	
Note: SQUAM CEL CARC--CAUSE OF DEATH			
[ Squamous Cell Carcinoma TGLS = 1-15 ]			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16791

TRT#: 5

SEX: Female

DAY ON TEST: 731

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16791

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Ovary
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thymus	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Minimal
Islets, Pancreatic		Hyperplasia	Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Moderate
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Minimal
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16791

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16791

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland Note: ADENOMA	TGLs = 1-1	Pars Distalis	Adenoma	
Spleen			Hematopoietic Cell Proliferation Pigmentation	Moderate Mild
Thyroid Gland		C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH		-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16792

TRT#: 5

SEX: Female

DAY ON TEST: 540

DOSE: 600 PPM

DISP: Dead

HISTO: 16792

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Nose	Ovary	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thyroid Gland	Trachea	Urinary Bladder

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Moderate
Kidney	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Lymph Node		Congestion	Mild
	Mesenteric	Leukemia Mononuclear	
		Pigmentation	Mild
Note: PIGMENT AND CONGESTION--REGIONAL L.N.-UTERUS			
Mammary Gland	Acinus	Ectasia	Moderate
	Duct	Ectasia	Moderate
Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Mild

Note: HYPERPLASIA TGLs = 2-1

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16792

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 540

**DOSE:** 600 PPM

**DISP:** Dead

**HISTO:** 16792

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Hyperplasia TGLS = 2-1 ]

Spleen

Hematopoietic Cell Proliferation

Mild

Leukemia Mononuclear

Note: LEUKEMIA--CAUSE OF DEATH

Thymus

Congestion

Moderate

Uterus

Endometrium

Polyp Stromal

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[ Polyp Stromal TGLS = 1-15 ]

PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16794

TRT#: 5

SEX: Female

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16794

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Brain	Clitoral Gland
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Mammary Gland
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thyroid Gland	Trachea
Urinary Bladder	Uterus	Vagina	

MISSING

Adrenal Gland - Cortex	Adrenal Gland - Medulla
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OBSERVATIONS

Bone Marrow		Myelofibrosis	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Islets, Pancreatic		Carcinoma	
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Hepatocellular Adenoma	
	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
[ Hyperplasia TGLS = 3-11 ]			
[ Inflammation TGLS = 2-11 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 4-4			
Lymph Node	Mandibular	Congestion	Mild
	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16794

TRT#: 5

SEX: Female

DAY ON TEST: 730

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16794

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
	Pars Distalis	Craniopharyngioma	
	Pars Distalis	Cyst	
Spleen	Pars Nervosa	Cyst	
		Fibrosis	Marked
		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Note: LEUKEMIA MONUC	TGLs = 1-12		
Note: FIBROSIS	TGLs = 1-12		
Stomach	Glandular, Mucosa	Dilatation	Mild
Thymus		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16796

TRT#: 5

DOSE: 600 PPM

SEX: Female

DISP: Terminal Sacrifice

DAY ON TEST: 732

HISTO: 16796

ORGAN AND ACCOUNTABLE SITE STATUS

**NORMAL**

Adrenal Gland - Medulla	Blood Vessel	Bone	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Pancreas	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder
Uterus			

**MISSING**

Parathyroid Gland

**OBSERVATIONS**

Adrenal Gland	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Mild
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Angiectasis	Mild
		Focal Cellular Change	
		Granuloma	Mild
		Hematopoietic Cell Proliferation	Minimal
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
[ Angiectasis TGLS = 1-15 ]			
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Moderate
	Mesenteric	Hyperplasia	Lymphoid, Moderate
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

**ANIMAL ID:** 16796

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16796

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Mucosa Pars Distalis Pars Distalis	Inflammation Cyst Hyperplasia	Acute, Mild  Moderate
Note: [ HYPERPLASIA ] TGLs = 2-1 Note: CYST IN RECUT--BLOCK 1.1 Note: CYST TGLs = 2-1.1			
Spleen		Hematopoietic Cell Proliferation Pigmentation	Moderate Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16798

TRT#: 5

SEX: Female

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16798

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Developmental Malformation	
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
[ Developmental Malformation TGLS = 2-15 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Peribronchiolr	Inflammation	Chronic, Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Parathyroid Gland			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16798

**TRT#:** 5

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 600 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16798

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: GROSS LESION ACTUALLY IN THYROID

Pituitary Gland

Pars Distalis

Adenoma

Pars Distalis

Cyst

Pars Distalis

Hyperplasia

Mild

Note: ADENOMA TGLs = 3-1

Spleen

Hematopoietic Cell Proliferation

Moderate

Thyroid Gland

Follicle

Pigmentation

Mild

Ectasia

Moderate

Ultimobranchial Cyst

Note: ECTASIA TGLs = 1-2

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16799

TRT#: 5

SEX: Female

DAY ON TEST: 733

DOSE: 600 PPM

DISP: Terminal Sacrifice

HISTO: 16799

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Minimal
Brain		Hemorrhage	Minimal
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Developmental Malformation	
		Focal Cellular Change	Minimal
	Portal	Inflammation	Chronic, Mild
Note: DEVELOP MALFOR TGLs = 2-15.2			
Lung		Congestion	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N. HYPERPLASTIC--FIBROADENOMA			
Mammary Gland	Acinus	Ectasia	Marked
	Duct	Ectasia	Mild
		Fibroadenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:53  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16799	<b>TRT#:</b> 5 <b>DOSE:</b> 600 PPM	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 733 <b>HISTO:</b> 16799
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Fibroadenoma TGLS = 1-15 ]			
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Marked
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	
Note: ADENOMA	TGLs = 3-1		
Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Minimal
Thymus		Hyperplasia	Lymphoid, Mild

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16860

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16860

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Liver	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Mild
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Minimal
		Cardiomyopathy	Chronic, Minimal
Heart		Nephropathy	Chronic, Minimal
Kidney		Pigmentation	Minimal
	Renal Tubule	Hyperplasia	Mild
	Smooth Muscle	Infiltration Cellular	Histiocyte, Mild
	Alveolus	Infiltration Cellular	Lymphocyte, Mild
	Peribronchiolr	Inflammation	Chronic, Mild
	Arteriole	Mineralization	Mild
Note: INFILTRAT CELL TGLs = 1-4 [ Mineralization TGLS = 1-4 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Mild
Note: ANGIECTASIS TGLs = 4-1 Note: REGIONAL L.N.FOR FIBROADENOMA HYPERPLASTIC			
Mammary Gland	Acinus	Ectasia	Moderate
		Fibroadenoma	
Note: FIBROADENOMA TGLs = 3-15.1			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16860

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16860

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
	Nasolacrim Dct	Inflammation	Acute, Mild
	Pars Distalis	Angiectasis	Moderate
Pituitary Gland			
Note: ANGIECTASIS	TGLs = 4-1		
Note: ANGIECTASIS	TGLs = 4-1		
Skin	Subcut Tiss	Abscess	Marked
Note: ABSCESS	TGLs = 2-15		
Spleen		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16861

TRT#: 6

SEX: Female

DAY ON TEST: 673

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16861

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Bone Marrow	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
Thyroid Gland	Trachea	Urinary Bladder	Uterus

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Minimal
Brain		Compression	
Clitoral Gland	Duct	Ectasia	Marked
	Duct	Hyperplasia	Squamous, Moderate
		Inflammation	Chronic, Mild
			[ Ectasia TGLS = 1-15 ]
			[ Hyperplasia TGLS = 1-15 ]
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Angiectasis	Mild
		Focal Cellular Change	Minimal
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Congestion	Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Marked

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16861

TRT#: 6

SEX: Female

DAY ON TEST: 673

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16861

ORGAN AND ACCOUNTABLE SITE STATUS

Nose	Duct	Ectasia	Marked
	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA--CAUSE OF DEATH [ Adenoma TGLS = 2-1 ]			
Spleen		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Inflammation	Chronic Active, Moderate
	Glandular	Inflammation	Chronic Active, Mild
	Forestomach	Ulcer	Moderate
[ Inflammation TGLS = 3-6 ]			
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16862

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16862

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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 Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Liver		Developmental Malformation	
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
		Leukemia Mononuclear	
[ Developmental Malformation TGLS = 1-15 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 3-4			
Note: INFILTRAT CELL TGLs = 3-4			
Lymph Node	Mandibular	Cyst	
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Mild
Note: HYPERPLASIA TGLs = 2-15.1			
Note: REGIONAL L.N. HYPERPLASTIC			
Mammary Gland	Duct	Ectasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

**ANIMAL ID:** 16862

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16862

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Minimal
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
Note: [ HYPERPLASIA ] TGLs = 5-1			
Spleen		Leukemia Mononuclear Pigmentation	Mild
Note: LEUKEMIA MONUC TGLs = 4-12			
Thymus		Cyst	
Thyroid Gland	C Cell	Hyperplasia	Mild

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16863

TRT#: 6

SEX: Female

DAY ON TEST: 563

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16863

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

MISSING

Intestine Large - Rectum	Lymph Node - Mandibular
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OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Fatty Change	Minimal
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N.FOR MAMMARY LESION NORMAL			
Mammary Gland		Adenocarcinoma	
	Duct	Ectasia	Mild
Note: ACTASIA--BL. 7			
[ Adenocarcinoma TGLS = 1-15 ]			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Minimal
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16863

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 563

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16863

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Note: ADENOMA--CAUSE OF DEATH

Note: ADENOMA TGLs = 2-1

Skin

Cyst Epithelial Inclusion

Note: CYST EPITH INC--BL 7

Spleen

Hematopoietic Cell Proliferation

Mild

Stomach

Glandular, Mucosa

Pigmentation

Mild

Dilatation

Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16864

TRT#: 6

SEX: Female

DAY ON TEST: 693

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16864

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	Ovary
Pancreas	Salivary Glands	Thyroid Gland	Trachea
Urinary Bladder	Uterus	Vagina	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Medulla	Hyperplasia	Mild
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Mild
Blood Vessel Note: MINERALIZATION TGLs = 4-3	Aorta	Mineralization	Marked
Bone	Cranium	Fibrous Osteodystrophy	Marked
	Femur	Fibrous Osteodystrophy	Marked
Heart		Cardiomyopathy	Chronic, Moderate
	Artery	Mineralization	Marked
		Mineralization	Marked
Kidney Note: NEPHROPATHY--CAUSE OF DEATH [ Nephropathy TGLS = 1-12 ]		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
		Granuloma	Mild
Lung	Portal	Inflammation	Chronic Active, Mild
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Arteriole	Mineralization	Mild
	Mesenteric	Congestion	Mild
Mammary Gland	Mandibular	Cyst	
	Mandibular	Hyperplasia	Lymphoid, Mild
	Duct	Ectasia	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16864

TRT#: 6

SEX: Female

DAY ON TEST: 693

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16864

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose	Olfactory Epi	Degeneration	Mild
Parathyroid Gland		Hypertrophy	Moderate
Note: HYPERTROPHY	TGLs = 3-2		
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 5-1		
Skin	Head, Subcut Tiss	Abscess	Moderate
	Head	Ulcer	Moderate
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Minimal
Stomach	Glandular, Mucosa	Erosion	Moderate
	Glandular, Mucosa	Mineralization	Mild
	Forestomach	Ulcer	Moderate
Note: MINERALIZATION	TGLs = 6-15.1+6+6.1		
Thymus		Cyst	
Vagina			
Note: GROSS OBS.--PROBABLE N. CYCLIC EXUDATE			

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16865

TRT#: 6

SEX: Female

DAY ON TEST: 165

DOSE: 1200 PPM

DISP: Dead

HISTO: 16865

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Cortex	Adrenal Gland - Medulla	Blood Vessel	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	Liver	Mammary Gland	Nose
Ovary	Pancreas	Parathyroid Gland	Salivary Glands
Skin	Spleen	Stomach - Forestomach	Stomach - Glandular
Thyroid Gland	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Lung		Congestion	Mild
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Congestion	Mild
Note: MESENTERIC L.N. NORMAL			
Pituitary Gland	Pars Distalis	Congestion	Mild
Thymus		Congestion	Mild

PRIMARY CAUSE OF DEATH

-

Animal Note: CAUSE OF DEATH UNKNOWN

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16868

TRT#: 6

SEX: Female

DAY ON TEST: 640

DOSE: 1200 PPM

DISP: Dead

HISTO: 16868

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Islets, Pancreatic	Mammary Gland	Parathyroid Gland
Pituitary Gland	Salivary Glands	Skin	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Clitoral Gland	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Lymph Node - Mandibular			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 4-11			
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Leukemia Mononuclear	
Mesentery		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 3-15			
Nose	Lumen	Hemorrhage	Moderate
Ovary		Leukemia Mononuclear	
Pancreas		Leukemia Mononuclear	
Spleen		Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH			

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16868

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 640

**DOSE:** 1200 PPM

**DISP:** Dead

**HISTO:** 16868

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Leukemia Mononuclear TGLS = 2-11 ]

Stomach	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	
	Forestomach	Ulcer	Marked
Note: ULCER	TGLs = 7-6.1		
Note: LEUKEMIA MONUC	TGLs = 7-6+6.1		
Uterus		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 5-5		

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16869

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16869

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Acute, Marked
Eye		Cataract	Moderate
	Retina	Degeneration	Marked
	Antr Chamber	Hemorrhage	Moderate
	[ Cataract TGLS = 1-15 ]		
	[ Degeneration TGLS = 1-15 ]		
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Hematopoietic Cell Proliferation	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolar Epith	Hyperplasia	Moderate
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:53  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16869	<b>TRT#:</b> 6 <b>DOSE:</b> 1200 PPM	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 730 <b>HISTO:</b> 16869
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland	Respirat Epith	Degeneration	Minimal
Spleen	Pars Distalis	Adenoma	
		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Uterus	Endometrium	Inflammation	Chronic, Mild
	Myometrium	Inflammation	Chronic, Mild
Note: INFLAMMATION	TGLs = 2-5		
Note: INFLAMMATION	TGLs = 2-5		

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PRIMARY CAUSE OF DEATH

-

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Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16870

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16870

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney	Renal Tubule	Carcinoma	
	Renal Tubule	Nephropathy	Chronic, Moderate
		Pigmentation	Mild
[ Nephropathy TGLS = 2-15 ]			
Liver		Focal Cellular Change	
	Portal	Inflammation	Chronic, Minimal
Lung		Infiltration Cellular	Lymphocyte, Mild
Lymph Node		Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Mild
Note: HYPERPLASIA & CONGESTION IN REGIONAL L.N.			
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Moderate
Pancreas	Acinus	Atrophy	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16870

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16870

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland Note: CYST	TGLs = 3-1	Pars Distalis	Cyst	
Spleen			Hematopoietic Cell Proliferation	Mild
			Pigmentation	Mild
Stomach		Glandular, Mucosa	Dilatation	Mild
Thyroid Gland		C Cell	Hyperplasia	Mild
PRIMARY CAUSE OF DEATH		-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16871

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16871

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Esophagus	Intestine Large - Cecum	Intestine Large - Colon
Intestine Large - Rectum	Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum
Ovary	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Chronic, Mild
Islets, Pancreatic		Carcinoma	
Kidney	Renal Tubule	Nephropathy	Chronic, Moderate
		Pigmentation	Mild
Note: NEPHROPATHY TGLs = 3-12			
Liver		Angiectasis	Minimal
		Focal Cellular Change	
		Granuloma	Mild
Note: ANGIECTASIS TGLs = 2-11			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitialium	Inflammation	Chronic Active, Mild
[ Inflammation TGLS = 1-15 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Minimal
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16871

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16871

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pancreas	Olfactory Epi	Metaplasia	Mild
Pituitary Gland	Acinus	Atrophy	Mild
Note: ADENOMA	Pars Distalis	Adenoma	
TGLs = 4,5-1			
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Mild
Uterus	Endometrium	Polyp Stromal	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16872

TRT#: 6

SEX: Female

DAY ON TEST: 648

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16872

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder
Uterus			

MISSING

Adrenal Gland - Cortex	Adrenal Gland - Medulla
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OBSERVATIONS

Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Moderate
		Inflammation	Acute, Marked
Note: HYPERPLASIA IN REGIONAL L.N.			
Note: REGIONAL L.N. FOR MAMMARY TUMOR.			
Note: INFLAMMATION TGLs = 2-15.1			
Mammary Gland		Fibroadenoma	
Note: FIBROADENOMA TGLs = 1-15			
Note: FIBROADENOMA--CAUSE OF DEATH			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Minimal

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16872

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 648

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16872

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas	Mucosa	Inflammation	Acute, Minimal
Pituitary Gland	Acinus	Atrophy	Mild
	Pars Distalis	Cyst	
Spleen	Pars Distalis	Hyperplasia	Mild
		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16873

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16873

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Minimal
[ Nephropathy TGLS = 1-12 ]			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Marked
Nose	Olfactory Epi	Degeneration	Mild
	Olfactory Epi	Erosion	Mild
	Respirat Epith	Erosion	Moderate
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Moderate
	Mucosa	Squamous Cell Carcinoma	

Note: CARCINOMA IN BL 14.2

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16873

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16873

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pancreas		Infiltration Cellular	Lymphocyte, Mild
Pituitary Gland	Pars Distalis	Hemorrhage	Marked
Note: HEMORRHAGE	TGLs = 2-1		
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16875

TRT#: 6

SEX: Female

DAY ON TEST: 648

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16875

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone Marrow	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Parathyroid Gland	Salivary Glands	Skin	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Bone	Femur	Fibrous Osteodystrophy	
Brain		Compression	
Clitoral Gland		Inflammation	Chronic, Mild
Eye	Lids	Inflammation	Chronic Active, Mild
Note: INFLAMMATION TGLs = 3-15			
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 1-12			
Note: NEPHROPATHY--CAUSE OF DEATH			
Liver		Fatty Change	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
Lung		Hemorrhage	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Minimal
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Olfactory Epi	Erosion	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16875

TRT#: 6

SEX: Female

DAY ON TEST: 648

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16875

ORGAN AND ACCOUNTABLE SITE STATUS

Pancreas	Mucosa	Inflammation	Acute, Moderate
Pituitary Gland	Acinus	Vacuolization Cytoplasmic	Mild
Note: ADENOMA	Pars Distalis	Adenoma	
TGLs = 2-1			
Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Erosion	Minimal
	Forestomach	Hyperplasia	Squamous, Moderate
	Forestomach	Ulcer	Marked
Note: ULCER			
TGLs = 6-6			
Note: EROSION			
TGLs = 4,5-6			
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16876

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16876

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Developmental Malformation	
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
	[ Developmental Malformation TGLS = 1-15 ]		
Lung		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Note: REGIONAL L.N. NORMAL		
	Note: MESENTERIC L.N. NORMAL		
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Moderate
	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Moderate
	Nasolacrim Dct	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16876

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16876

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Pituitary Gland

Pars Distalis

Cyst

Spleen

Fibrosis

Mild

Hematopoietic Cell Proliferation

Moderate

Pigmentation

Mild

Stomach

Glandular

Inflammation

Chronic Active, Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16877

TRT#: 6

SEX: Female

DAY ON TEST: 606

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16877

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Mammary Gland	Ovary	Pancreas
Salivary Glands	Skin	Stomach - Forestomach	Stomach - Glandular
Thyroid Gland	Trachea	Urinary Bladder	Uterus

MISSING

Lymph Node - Mandibular	Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
Pituitary Gland	Pars Distalis	Cyst	
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Thymus		Cyst	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

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**ANIMAL ID:** 16877

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 606

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16877

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Animal Note: CAUSE OF DEATH UNKNOWN

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16878

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16878

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
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	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 4-12			
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Note: ANGIECTASIS TGLs = 3-11			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic Active, Mild
		Pigmentation	Cholesterol, Minimal
[ Infiltration Cellular TGLS = 2-15.2 ]			
[ Inflammation TGLS = 2-15.2 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mediastinal	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
	Mediastinal	Pigmentation	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:53  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16878	<b>TRT#:</b> 6 <b>DOSE:</b> 1200 PPM	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 729 <b>HISTO:</b> 16878
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Mammary Gland		Adenocarcinoma Adenocarcinoma Acinus Duct	Moderate Moderate
Note: ADENOCARC TGLs = 5-15.3 [ Adenocarcinoma TGLS = 1-15 ]			
Nose	Olfactory Epi Respirat Epith Olfactory Epi Mucosa Olfactory Epi Pars Distalis	Degeneration Degeneration Erosion Inflammation Metaplasia Adenoma	Mild Minimal Mild Acute, Minimal Squamous, Mild
Pituitary Gland			
Note: ADENOMA TGLs = 6-1			
Spleen		Hematopoietic Cell Proliferation Pigmentation	Mild Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16879

TRT#: 6

SEX: Female

DAY ON TEST: 708

DOSE: 1200 PPM

DISP: Dead

HISTO: 16879

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
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	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus	Vagina	

OBSERVATIONS

Adrenal Gland	Cortex	Congestion	Moderate
	Cortex	Degeneration	Fatty, Moderate
	Cortex	Pigmentation	Mild
Brain		Compression	
		Hemorrhage	Mild
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 4-12			
Note: NEPHROPATHY--CAUSE OF DEATH			
Liver	Portal	Inflammation	Chronic, Minimal
Lung		Congestion	Moderate
		Hemorrhage	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Note: CONGESTION TGLs = 3-4			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Marked
Note: ECTASIA TGLs = 2-15+7			
Nose	Olfactory Epi	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:53

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

**Lab:** IRDC

---

**ANIMAL ID:** 16879

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 708

**DOSE:** 1200 PPM

**DISP:** Dead

**HISTO:** 16879

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Pituitary Gland

Pars Distalis

Adenoma

Note: ADENOMA--CAUSE OF DEATH

[ Adenoma TGLS = 1-1 ]

Spleen

Fibrosis

Moderate

Hematopoietic Cell Proliferation

Minimal

Pigmentation

Mild

Stomach

Glandular, Mucosa

Dilatation

Mild

Forestomach

Ulcer

Marked

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:53

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16881

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16881

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Brain
Esophagus	Intestine Large - Cecum	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Minimal
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Chronic, Moderate
Intestine Large	Colon	Parasite Metazoan	
Kidney	Renal Tubule	Nephropathy	Chronic, Marked
		Pigmentation	Mild
[ Nephropathy TGLS = 1-12 ]			
Liver		Focal Cellular Change	
	Portal	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Mild
Ovary	Periovarn Tiss	Cyst	
Note: CYST			
TGLs = 2-5			
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

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**ANIMAL ID:** 16881

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16881

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Pituitary Gland

Pars Distalis

Adenoma

Note: ADENOMA

TGLs = 3-1

Spleen

Hematopoietic Cell Proliferation

Moderate

Stomach

Glandular, Mucosa

Pigmentation

Mild

Thyroid Gland

C Cell

Dilatation

Minimal

Uterus

Endometrium

Hyperplasia

Minimal

Polyp Stromal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16882

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16882

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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 - Glandular	Thymus
Trachea	Urinary Bladder		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic Active, Mild
		Cardiomyopathy	Chronic, Mild
Heart		Nephropathy	Chronic, Mild
Kidney	Renal Tubule	Pigmentation	Mild
		Focal Cellular Change	
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
		Mineralization	Mild
Lymph Node	Arteriole	Hyperplasia	Lymphoid, Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
Mammary Gland	Mesenteric	Ectasia	Moderate
	Acinus	Degeneration	Moderate
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Hemorrhage	Mild
	Lumen	Inflammation	Acute, Mild
	Mucosa	Adenoma	
Pituitary Gland	Pars Distalis		
Note: ADENOMA	TGLs = 1-1		
Spleen		Hematopoietic Cell Proliferation	Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

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**ANIMAL ID:** 16882

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16882

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Stomach  
Thyroid Gland

Forestomach  
C Cell  
C Cell  
Endometrium

Pigmentation  
Inflammation  
Adenoma  
Hyperplasia  
Hyperplasia

Moderate  
Chronic Active, Mild  
  
Mild  
Cystic, Mild

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16883

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16883

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
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	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Brain		Compression	
Clitoral Gland		Hyperplasia	Moderate
		Inflammation	Chronic Active, Moderate
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Moderate
Pituitary Gland	Pars Distalis	Adenoma	
[ Adenoma TGLS = 1-1 ]			
Spleen		Hematopoietic Cell Proliferation	Moderate

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

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**ANIMAL ID:** 16883

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16883

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Uterus

Endometrium

Pigmentation

Moderate

Hyperplasia

Cystic, Minimal

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16884

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16884

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Skin	Stomach - Forestomach	Stomach - Glandular
Thymus	Trachea	Urinary Bladder	Uterus

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hyperplasia	Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Congestion	Mild
	Mesenteric	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

---

**ANIMAL ID:** 16884

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16884

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland	Pars Distalis	Cyst	
	Pars Distalis	Hyperplasia	Mild
Salivary Glands		Infiltration Cellular	Lymphocyte, Mild
Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Moderate
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16885

TRT#: 6

SEX: Female

DAY ON TEST: 561

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16885

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder			

MISSING

Clitoral Gland	Lymph Node - Mandibular
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OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Minimal
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Mild
Note: HYPERPLASIA IN REGIONAL L.N.--FIBROADENOMA			
Mammary Gland		Fibroadenoma	
Note: FIBROADENOMA TGLs = 1-15.1			
Nose	Olfactory Epi	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal
Pancreas	Acinus	Atrophy	Minimal
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16885

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 561

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16885

**ORGAN AND ACCOUNTABLE SITE STATUS**

Spleen	Pars Distalis	Cyst Hematopoietic Cell Proliferation Hyperplasia Pigmentation	Moderate Lymphoid, Mild Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Mild
Uterus	Endometrium	Ectasia	Mild
	Endometrium	Sarcoma Stromal	

Note: SARC STROMAL TGLs = 2-15

Note: SARCOMA--CAUSE OF DEATH

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16887

TRT#: 6

SEX: Female

DAY ON TEST: 564

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16887

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone Marrow	Brain	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Ileum
Intestine Small - Jejunum	Islets, Pancreatic	Ovary	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Trachea	Urinary Bladder	Uterus	

MISSING

Clitoral Gland	Lymph Node - Mandibular
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OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Medulla	Hyperplasia	Mild
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Bone	Femur	Fibrous Osteodystrophy	Mild
Heart		Cardiomyopathy	Chronic, Mild
Intestine Small	Duodenum	Erosion	Moderate
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY--CAUSE OF DEATH [ Pigmentation TGLS = 1-12 ]			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Minimal
Mammary Gland	Acinus	Ectasia	Marked
	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Respirat Epith	Erosion	Mild
	Mucosa	Inflammation	Acute, Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

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**ANIMAL ID:** 16887

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 564

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16887

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Pancreas	Acinus	Atrophy	Mild
	Arteriole	Inflammation	Chronic, Moderate
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland		Ultimobranchial Cyst	

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16889

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16889

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Minimal
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Developmental Malformation	
		Focal Cellular Change	
	Portal	Inflammation	Chronic, Minimal
[ Developmental Malformation TGLS = 1-15 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic Active, Minimal
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 2-1			

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

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**ANIMAL ID:** 16889

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16889

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen

Hematopoietic Cell Proliferation

Mild

Pigmentation

Mild

Stomach

Glandular, Mucosa

Dilatation

Mild

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16890

TRT#: 6

SEX: Female

DAY ON TEST: 584

DOSE: 1200 PPM

DISP: Dead

HISTO: 16890

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Hypertrophy	Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH [ Leukemia Mononuclear TGLS = 3-11 ]			
Lung		Hemorrhage	Moderate
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Lymph Node	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Moderate

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16890

TRT#: 6

SEX: Female

DAY ON TEST: 584

DOSE: 1200 PPM

DISP: Dead

HISTO: 16890

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose	Duct	Ectasia	Moderate
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Cyst	
Spleen		Hematopoietic Cell Proliferation	Mild
		Infarct	Moderate
		Leukemia Mononuclear	
		Pigmentation	Mild
Note: INFARCT TGLs = 2-15			
Note: LEUKEMIA MONUC TGLs = 1-12			
Stomach	Glandular, Mucosa	Dilatation	Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16892

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 723

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16892

**ORGAN AND ACCOUNTABLE SITE STATUS**

**NORMAL**

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Ovary
Pancreas	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Uterus

**OBSERVATIONS**

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Cortex	Pigmentation	Mild
Brain		Compression	
		Hemorrhage	Mild
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Rectum	Ulcer	Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
		Sarcoma	
Liver		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
	[ Granuloma TGLS = 1-11 ]		
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
		Pigmentation	Cholesterol, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16892

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 723

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16892

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Olfactory Epi	Erosion	Minimal
	Mucosa	Inflammation	Acute, Mild
	Nasolacrim Dct	Inflammation	Acute, Moderate
	Pars Distalis	Adenoma	
Pituitary Gland			
Note: ADENOMA	TGLs = 3-1		
Note: ADENOMA--CAUSE OF DEATH			
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Adenoma	
	C Cell	Hyperplasia	Minimal
Note: ADENOMA	TGLs = 2-2		
Urinary Bladder		Inflammation	Chronic, Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16893

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16893

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Minimal
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Moderate
	Portal	Inflammation	Chronic, Moderate
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
[ Infiltration Cellular TGLS = 1-4 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Minimal
	Mesenteric	Hyperplasia	Lymphoid, Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Cyst	
Note: CYST	TGLs = 2-1		

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

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**ANIMAL ID:** 16893

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16893

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**ORGAN AND ACCOUNTABLE SITE STATUS**

---

Spleen

Hematopoietic Cell Proliferation

Mild

Pigmentation

Mild

Stomach

Glandular, Mucosa

Dilatation

Mild

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16894

TRT#: 6

SEX: Female

DAY ON TEST: 421

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16894

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Brain	Esophagus	Intestine Large - Cecum	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Pancreas	Salivary Glands	Stomach - Forestomach
Thyroid Gland	Trachea	Urinary Bladder	Uterus

MISSING

Clitoral Gland	Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Intestine Large	Colon	Parasite Metazoan	
Kidney		Nephropathy	Chronic, Minimal
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Pleura	Fibrosis	Marked
	Alveolar Epith	Hyperplasia	Moderate
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Moderate
	Peribronchiolr	Inflammation	Chronic Active, Marked
	[ Fibrosis TGLS = 3-15.1 ]		
	[ Inflammation TGLS = 2-15.1+15.2 ]		
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mediastinal	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Moderate
Mammary Gland	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

---

**ANIMAL ID:** 16894

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 421

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16894

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Pituitary Gland	Mucosa Pars Distalis Pars Distalis	Inflammation Adenoma Cyst Keratoacanthoma	Acute, Mild
Skin [ Keratoacanthoma TGLS = 1-15 ]			
Spleen		Hematopoietic Cell Proliferation Pigmentation	Mild Mild
Stomach Thymus	Glandular, Mucosa	Dilatation Hyperplasia	Mild Lymphoid, Mild

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**PRIMARY CAUSE OF DEATH**

-

Animal Note: FEMUR NOT AVAILABLE FOR MICRO. EXAM.

Animal Note: BONE & MARROW OF SKULL EXAMINED

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16895

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16895

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Pancreas	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Trachea	Urinary Bladder
Uterus			

MISSING

Clitoral Gland	Parathyroid Gland
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OBSERVATIONS

Adrenal Gland	Cortex	Hyperplasia	Mild
	Cortex	Hypertrophy	Minimal
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Moderate
Kidney	Renal Tubule	Cyst	
		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
Lung	Portal	Inflammation	Chronic, Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Arteriole	Mineralization	Minimal
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Moderate
		Fibroadenoma	
[ Fibroadenoma TGLS = 1-15 ]			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16895

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16895

**ORGAN AND ACCOUNTABLE SITE STATUS**

Pituitary Gland	Glands	Hyperplasia	Marked
Note: ADENOMA	Mucosa	Inflammation	Acute, Mild
TGLs = 2-1	Pars Distalis	Adenoma	
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Carcinoma	
Note: [ CARCINOMA ]			
TGLs = 3-2			
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16896

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16896

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Thymus
Trachea	Urinary Bladder	Uterus	

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Clitoral Gland		Adenoma	
[ Adenoma TGLS = 1-5.2 ]			
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Interstitial	Inflammation	Chronic, Minimal
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Erosion	Moderate
	Lumen	Foreign Body	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Moderate
	Olfactory Epi	Metaplasia	Mild
Pituitary Gland	Pars Distalis	Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

---

**ANIMAL ID:** 16896

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 731

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16896

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenoma TGLS = 2-1 ]

Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16897

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16897

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Brain	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Medulla	Hematopoietic Cell Proliferation	Mild
	Cortex	Pigmentation	Mild
Bone Marrow		Hyperplasia	Marked
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
Liver		Focal Cellular Change	
		Hematopoietic Cell Proliferation	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Note: [ HEMA CELL PROL ] TGLs = 5-11			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
[ Mineralization TGLS = 2-4 ]			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Mucosa	Inflammation	Acute, Mild
Ovary	Periovarn Tiss	Cyst	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

**ANIMAL ID:** 16897

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16897

**ORGAN AND ACCOUNTABLE SITE STATUS**

Note: CYST TGLs = 6-15.1

Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Spleen		Hematopoietic Cell Proliferation	Marked
	Capsule	Inflammation	Acute, Mild
		Pigmentation	Minimal

Note: INFLAMMATION TGLs = 4-12

Note: [ HEMA CELL PROL ] TGLs = 3-11

Uterus Adenocarcinoma

[ Adenocarcinoma TGLS = 1-15+15.1 ]

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16899

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16899

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
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
Thymus	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Clitoral Gland		Adenoma	
		Inflammation	Chronic Active, Mild
Note: ADENOMA	TGLs = 1-5.2		
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N. HYPERPLASTIC			
Mammary Gland	Duct	Ectasia	Moderate
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Nasolacrim Dct	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 4-1		

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

**ANIMAL ID:** 16899

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16899

**ORGAN AND ACCOUNTABLE SITE STATUS**

Skin	Subcut Tiss	Fibroma	
Note: FIBROMA TGLs = 2-15			
Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Marked
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Inflammation	Chronic Active, Moderate
	Forestomach	Squamous Cell Papilloma	
	Forestomach	Ulcer	Marked
Note: SQ CL PAPILLOM TGLs = 5-6			
Note: ULCER TGLs = 5-6			
Vagina		Inflammation	Acute, Mild
Note: INFLAMMATION TGLs = 3-15.2			
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16900

TRT#: 6

SEX: Female

DAY ON TEST: 652

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16900

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	Bone	Bone Marrow	Esophagus
Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum	Intestine Small - Duodenum
Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic	Parathyroid Gland
Salivary Glands	Skin	Stomach - Glandular	Trachea
Urinary Bladder			

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Brain		Compression	
Clitoral Gland		Inflammation	Acute, Marked
		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 3-12			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
[ Inflammation TGLS = 2-11 ]			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Lymph Node	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16900

TRT#: 6

SEX: Female

DAY ON TEST: 652

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16900

ORGAN AND ACCOUNTABLE SITE STATUS

Ovary	Respirat Epith Lumen Mucosa Follicle	Degeneration Hemorrhage Inflammation Cyst Granulosa Cell Tumor Malignant	Mild Mild Acute, Mild
Note: CYST	TGLs = 4-15		
Note: [ GRANLSA TM MAL ]	TGLs = 4-15		
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis Pars Distalis	Adenoma Leukemia Mononuclear	
Note: ADENOMA	TGLs = 5-1		
Spleen		Hematopoietic Cell Proliferation Leukemia Mononuclear Pigmentation	Mild Mild
Note: LEUKEMIA--CAUSE OF DEATH			
Note: LEUKEMIA MONUC	TGLs = 1-12		
Stomach	Forestomach Forestomach	Hyperplasia Ulcer	Squamous, Marked Marked
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Hyperplasia	Mild
Uterus	Endometrium	Ultimobranchial Cyst Hyperplasia	Cystic, Mild

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16901

TRT#: 6

SEX: Female

DAY ON TEST: 667

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16901

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Ovary	Pancreas	Salivary Glands	Skin
Thymus	Trachea	Urinary Bladder	

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Marked
	Medulla	Hyperplasia	Moderate
	Cortex	Inflammation	Chronic, Mild
	Cortex	Pigmentation	Mild
Note: DEGEN TGLs = 3-1			
Bone	Cranium	Fibrous Osteodystrophy	
	Femur	Fibrous Osteodystrophy	
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Mild
Note: NEPHROPATHY TGLs = 4-12			
Note: NEPHROPATHY--CAUSE OF DEATH			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Moderate
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: MESENTERIC L.N. NORMAL			
Mammary Gland	Acinus	Ectasia	Marked
	Duct	Ectasia	Marked
[ Ectasia TGLS = 1-15+7 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16901

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 667

**DOSE:** 1200 PPM

**DISP:** Moribund

**HISTO:** 16901

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose	Olfactory Epi	Degeneration	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Spleen		Fibrosis	Moderate
		Hematopoietic Cell Proliferation	Moderate
		Pigmentation	Minimal
Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Erosion	Minimal
	Forestomach	Ulcer	Marked
Note: EROSION	TGLs = 7-15.1		
Note: ULCER	TGLs = 2,6-15.3		
Thyroid Gland	C Cell	Hyperplasia	Mild
Uterus	Endometrium	Hyperplasia	Cystic, Marked
Note: HYPERPLASIA	TGLs = 5-15.2		

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16903

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16903

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Urinary Bladder		

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Minimal
[ Nephropathy TGLS = 2-12 ]			
Liver		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
		Leukemia Mononuclear	
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland		Adenocarcinoma	
[ Adenocarcinoma TGLS = 1-15 ]			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

**ANIMAL ID:** 16903

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16903

**ORGAN AND ACCOUNTABLE SITE STATUS**

Organ	Accountable Site	Status
Pituitary Gland Note: ADENOMA TGLs = 3-1	Mucosa	Inflammation
	Olfactory Epi	Metaplasia
	Pars Distalis	Adenoma
Spleen		Hematopoietic Cell Proliferation
		Leukemia Mononuclear
		Pigmentation
Stomach	Glandular, Mucosa	Dilatation
		Inflammation
Tooth Note: BLOCK 14.3	Pulp	
Uterus	Endometrium	
PRIMARY CAUSE OF DEATH	-	

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

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**ANIMAL ID:** 16904

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16904

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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[ Adenocarcinoma TGLS = 1-15 ]

Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Moderate
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Mild
Ovary		Granulosa Cell Tumor Malignant	
Note: [ GRANLSA TM MAL ]			TGLs = 3-5
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA			TGLs = 4-1
Salivary Glands	Acinus	Atrophy	Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16905

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16905

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Stomach - Glandular	Thyroid Gland	Trachea	Urinary Bladder
Uterus			

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Moderate

Note: [ HYPERPLASIA ] TGLs = 1-1

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

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**ANIMAL ID:** 16905

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16905

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen

Hematopoietic Cell Proliferation  
Pigmentation

Mild  
Mild

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16906

TRT#: 6

SEX: Female

DAY ON TEST: 706

DOSE: 1200 PPM

DISP: Dead

HISTO: 16906

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Note: PHEOCHROM NOS TGLs = 5-1			
Clitoral Gland		Adenoma	
		Inflammation	Chronic, Mild
Note: [ ADENOMA ] TGLs = 1-15			
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Developmental Malformation	
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Note: DEVELOP MALFOR TGLs = 6-15.1			
Lung		Congestion	Moderate
	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Note: CONGESTION TGLs = 2-4			
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Minimal
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland		Adenocarcinoma	
	Acinus	Ectasia	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

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**ANIMAL ID:** 16906

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 706

**DOSE:** 1200 PPM

**DISP:** Dead

**HISTO:** 16906

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Nose	Duct Olfactory Epi Mucosa	Ectasia Degeneration Inflammation	Mild Mild Acute, Mild
Pituitary Gland Note: ADENOMA--CAUSE OF DEATH Note: ADENOMA TGLs = 4-1	Pars Distalis	Adenoma	
Spleen		Hematopoietic Cell Proliferation Pigmentation	Mild Mild
Uterus	Endometrium	Hyperplasia	Cystic, Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16907

TRT#: 6

SEX: Female

DAY ON TEST: 606

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16907

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	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	Skin
Thyroid Gland	Trachea	Uterus	

MISSING

Clitoral Gland	Thymus
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OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Bone Marrow		Leukemia Mononuclear	
Heart	Atrium	Thrombosis	
Kidney		Leukemia Mononuclear	
	Renal Tubule	Nephropathy	Chronic, Mild
		Pigmentation	Mild
Note: NEPHROPATHY TGLs = 5-12			
Note: PIGMENT TGLs = 5-12			
Liver		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 4-11			
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 3-4			
Lymph Node	Mandibular	Leukemia Mononuclear	
	Mesenteric	Leukemia Mononuclear	
Note: LEUKEMIA MONUC TGLs = 6-1			
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE



Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16907

TRT#: 6

SEX: Female

DAY ON TEST: 606

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16907

ORGAN AND ACCOUNTABLE SITE STATUS

Pituitary Gland	Lumen	Hemorrhage	Minimal
Note: ANGIECTASIS TGLs = 7-1	Mucosa	Inflammation	Acute, Minimal
Salivary Glands	Pars Intermed	Angiectasis	Marked
Spleen		Leukemia Mononuclear	
Note: LEUKEMIA--CAUSE OF DEATH		Leukemia Mononuclear	
[ Leukemia Mononuclear TGLS = 1-12 ]		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	
Urinary Bladder		Leukemia Mononuclear	
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16908

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16908

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Parathyroid Gland	Salivary Glands
Skin	Stomach - Forestomach	Stomach - Glandular	Trachea
Urinary Bladder	Uterus		

MISSING

Thymus

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Adenoma	

[ Adenoma TGLS = 1-1 ]

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:54  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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**ANIMAL ID:** 16908

**TRT#:** 6  
**DOSE:** 1200 PPM

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 732  
**HISTO:** 16908

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Thyroid Gland	C Cell	Hyperplasia	Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16909

TRT#: 6

SEX: Female

DAY ON TEST: 731

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16909

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Pancreas
Parathyroid Gland	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Thyroid Gland	Trachea	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hyperplasia	Minimal
	Cortex	Pigmentation	Minimal
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Minimal
	Renal Tubule	Pigmentation	Minimal
Liver		Focal Cellular Change	
		Hemorrhage	Moderate
	Bile Duct	Hyperplasia	Minimal
Lung	Portal	Inflammation	Chronic, Minimal
		Congestion	Mild
	Alveolus	Infiltration Cellular	Histiocyte, Mild
	Arteriole	Infiltration Cellular	Lymphocyte, Mild
Lymph Node		Mineralization	Minimal
	Mandibular	Congestion	Mild
	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mammary Gland		Hyperplasia	Lymphoid, Mild
	Acinus	Ectasia	Mild
	Duct	Ectasia	Mild

Note: REGIONAL FOR MAMMARY--HYPERPLASTIC

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:54  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16909	<b>TRT#:</b> 6 <b>DOSE:</b> 1200 PPM	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 731 <b>HISTO:</b> 16909
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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		Fibroadenoma	
[ Fibroadenoma TGLS = 1-15 ]			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA      TGLs = 4-1			
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Minimal
Urinary Bladder		Infiltration Cellular	Lymphocyte, Mild
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16911

TRT#: 6

SEX: Female

DAY ON TEST: 654

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16911

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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
Pancreas	Parathyroid Gland	Salivary Glands	Skin
Trachea			

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Leukemia Mononuclear	
	Medulla	Leukemia Mononuclear	
	Cortex	Pigmentation	Mild
Brain		Hemorrhage	Mild
		Leukemia Mononuclear	
Note: HEMORRHAGE	TGLs = 3-10		
Heart		Cardiomyopathy	Chronic, Mild
		Leukemia Mononuclear	
Kidney		Leukemia Mononuclear	
		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Note: LEUKEMIA--CAUSE OF DEATH			
Liver		Leukemia Mononuclear	
Note: LEUKEMIA MONUC	TGLs = 2-11		
Lung		Infiltration Cellular	Lymphocyte, Mild
		Leukemia Mononuclear	
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Duct	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Olfactory Epi	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Minimal

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16911

TRT#: 6

SEX: Female

DAY ON TEST: 654

DOSE: 1200 PPM

DISP: Moribund

HISTO: 16911

ORGAN AND ACCOUNTABLE SITE STATUS

Ovary		Leukemia Mononuclear	
Pituitary Gland	Pars Distalis	Adenoma	
	Pars Distalis	Cyst	
	Pars Distalis	Leukemia Mononuclear	
Note: ADENOMA	TGLs = 4-1		
Spleen		Hematopoietic Cell Proliferation	Mild
		Leukemia Mononuclear	
[ Hematopoietic Cell Proliferation TGLS = 1-12 ]			
Stomach	Glandular, Mucosa	Dilatation	Mild
	Glandular, Mucosa	Erosion	Mild
	Forestomach	Hyperplasia	Squamous, Moderate
	Forestomach	Leukemia Mononuclear	
	Glandular	Leukemia Mononuclear	
	Forestomach	Ulcer	Marked
Note: EROSION	TGLs = 6-6		
Note: HYPERPLASIA	TGLs = 5-6+15		
Note: ULCER	TGLs = 5-6		
Thymus		Leukemia Mononuclear	
Thyroid Gland	C Cell	Hyperplasia	Mild
Urinary Bladder		Leukemia Mononuclear	
Uterus		Leukemia Mononuclear	

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16912

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16912

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Mammary Gland	Ovary
Pancreas	Salivary Glands	Skin	Stomach - Forestomach
Thymus	Trachea	Urinary Bladder	Uterus

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver		Focal Cellular Change	
Lung		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Minimal
Nose	Olfactory Epi	Degeneration	Moderate
	Respirat Epith	Degeneration	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Intermed	Angiectasis	Mild
	[ Angiectasis TGLS = 2-1 ]		
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Mucosa	Dilatation	Mild
Thyroid Gland	C Cell	Adenoma	
	[ Adenoma TGLS = 1-2 ]		

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

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**ANIMAL ID:** 16912

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 733

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16912

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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: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16913

TRT#: 6

SEX: Female

DAY ON TEST: 732

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16913

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Salivary Glands
Skin	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

MISSING

Parathyroid Gland

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic Active, Mild
Heart		Cardiomyopathy	Chronic, Moderate
Kidney		Nephropathy	Chronic, Moderate
	Renal Tubule	Pigmentation	Mild
Liver	Portal	Inflammation	Chronic, Minimal
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
			[ Infiltration Cellular TGLS = 1-4 ]
Lymph Node	Mesenteric	Hyperplasia	Lymphoid, Mild
	Mandibular	Inflammation	Acute, Moderate
Mammary Gland	Acinus	Ectasia	Mild
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Moderate
	Mucosa	Inflammation	Acute, Mild
	Nasolacrim Dct	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Cyst	
Note: CYST			
Spleen		Hematopoietic Cell Proliferation	Mild

TGLs = 2-1

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

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**ANIMAL ID:** 16913

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 732

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16913

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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Stomach

Glandular

Pigmentation

Mild

Forestomach

Foreign Body

Moderate

Forestomach

Hyperplasia

Squamous, Moderate

Squamous Cell Carcinoma

Note: HAIR SHAFTS IN & AROUND LESION

Note: HYPERPLASIA TGLs = 4-6

Note: 1991 CONVERSION DISCREPANCY. ORIGINAL DIAGNOSIS SITE NOT SPECIFIED.

Note: [ SQUAM CEL CARC ] TGLs = 3-6

Note: 1991 CONVERSION DISCREPANCY. ORIGINAL DIAGNOSIS SITE NOT SPECIFIED.

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PRIMARY CAUSE OF DEATH

-

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16914

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16914

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Salivary Glands
Skin	Stomach - Forestomach	Thymus	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Medulla	Hyperplasia	Minimal
	Cortex	Pigmentation	Mild
Bone Marrow		Myelofibrosis	Minimal
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Minimal
Note: NEPHROPATHY TGLs = 4-12			
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Minimal
	Portal	Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Lung		Hemorrhage	Minimal
	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Moderate
		Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Note: REGIONAL L.N. HYPERPLASTIC			
Mammary Gland		Fibroadenoma	
		Fibroadenoma	
[ Fibroadenoma TGLS = 1-15 ]			

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16914

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16914

ORGAN AND ACCOUNTABLE SITE STATUS

Organ	Accountable Site	Status
[ Fibroadenoma TGLS = 2-7 ]		
Nose	Olfactory Epi	Degeneration
	Respirat Epith	Degeneration
	Lumen	Hemorrhage
	Mucosa	Inflammation
Pituitary Gland	Pars Distalis	Adenoma
Note: ADENOMA TGLs = 5-1		
Note: ADENOMA IN RECUT BLOCK 1		
Spleen		Hematopoietic Cell Proliferation
		Leukemia Mononuclear
		Pigmentation
Stomach	Glandular, Mucosa	Dilatation
Thyroid Gland	C Cell	Carcinoma
[ Carcinoma TGLS = 3-2 ]		
Tooth	Peridont Tiss	Inflammation
PRIMARY CAUSE OF DEATH		
-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16915

TRT#: 6

SEX: Female

DAY ON TEST: 630

DOSE: 1200 PPM

DISP: Dead

HISTO: 16915

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Ovary	Pancreas	Parathyroid Gland
Salivary Glands	Stomach - Forestomach	Thymus	Thyroid Gland
Trachea	Uterus		

MISSING

Lymph Node - Mandibular

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Pigmentation	Mild
Brain		Compression	
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Hydronephrosis	Marked
	Renal Tubule	Nephropathy	Chronic, Moderate
		Pigmentation	Mild
Note: HYDRONEPHROSIS--CAUSE OF DEATH [ Nephropathy TGLs = 2-12 ]			
Liver		Angiectasis	Mild
		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Note: ANGIECTASIS TGLs = 3-15.1			
Lung		Congestion	Minimal
		Infiltration Cellular	Lymphocyte, Mild
Note: CONGESTION TGLs = 5-4			
Lymph Node			
Note: MESENTERIC L.N. NORMAL			
Note: REGIONAL L.N.--NORMAL			
Mammary Gland	Duct	Ectasia	Minimal

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

**ANIMAL ID:** 16915

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 630

**DOSE:** 1200 PPM

**DISP:** Dead

**HISTO:** 16915

**ORGAN AND ACCOUNTABLE SITE STATUS**

Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Nasolacrim Dct	Inflammation	Acute, Minimal
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 4-1			
Skin	Subcut Tiss	Lipoma	
[ Lipoma TGLS = 1-15 ]			
Spleen		Pigmentation	Marked
Stomach	Glandular, Mucosa	Erosion	Mild
Note: EROSION TGLs = 6-6			
Urinary Bladder		Inflammation	Chronic, Mild
PRIMARY CAUSE OF DEATH	-		

\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16916

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16916

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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
Thymus	Thyroid Gland	Trachea	Urinary Bladder

OBSERVATIONS

Adrenal Gland	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic, Minimal
Heart		Cardiomyopathy	Chronic, Moderate
Kidney	Renal Tubule	Nephropathy	Chronic, Marked
		Pigmentation	Mild
[ Nephropathy TGLS = 1-12 ]			
Liver	Portal	Focal Cellular Change	
		Inflammation	Chronic, Minimal
		Leukemia Mononuclear	
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Leukemia Mononuclear	
Mammary Gland	Acinus	Ectasia	Marked
	Acinus	Hyperplasia	Cystic, Marked
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Olfactory Epi	Erosion	Minimal
	Lumen	Hemorrhage	Minimal
	Mucosa	Inflammation	Acute, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 2-1		
Spleen		Hematopoietic Cell Proliferation	Mild

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:54  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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**ANIMAL ID:** 16916

**TRT#:** 6  
**DOSE:** 1200 PPM

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:** 733  
**HISTO:** 16916

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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		Leukemia Mononuclear	
		Pigmentation	Minimal
Uterus	Endometrium	Hyperplasia	Cystic, Minimal
PRIMARY CAUSE OF DEATH	-		

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16917

TRT#: 6

SEX: Female

DAY ON TEST: 729

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16917

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	Bone	Bone Marrow
Esophagus	Intestine Large - Cecum	Intestine Large - Colon	Intestine Large - Rectum
Intestine Small - Duodenum	Intestine Small - Ileum	Intestine Small - Jejunum	Islets, Pancreatic
Ovary	Parathyroid Gland	Salivary Glands	Skin
Stomach - Forestomach	Thymus	Thyroid Gland	Trachea
Urinary Bladder	Uterus		

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Mild
	Cortex	Pigmentation	Mild
Brain		Compression	
Clitoral Gland		Inflammation	Chronic, Mild
Heart		Cardiomyopathy	Chronic, Mild
Kidney	Capsule	Inflammation	Chronic, Mild
	Renal Tubule	Nephropathy	Chronic, Moderate
		Pigmentation	Mild
[ Nephropathy TGLS = 2-12 ]			
Liver		Focal Cellular Change	
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Arteriole	Mineralization	Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N. NORMAL			
Mammary Gland		Adenocarcinoma	
	Acinus	Ectasia	Mild
	Duct	Ectasia	Moderate
		Inflammation	Chronic, Moderate
[ Adenocarcinoma TGLS = 1-15 ]			
Nose	Olfactory Epi	Degeneration	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

**ANIMAL ID:** 16917

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 729

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16917

**ORGAN AND ACCOUNTABLE SITE STATUS**

	Respirat Epith	Degeneration	Moderate
	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
Pancreas	Acinus	Atrophy	Mild
		Inflammation	Chronic Active, Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA	TGLs = 3-1		
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular, Serosa	Inflammation	Chronic Active, Mild

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16918

TRT#: 6

SEX: Female

DAY ON TEST: 733

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16918

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Blood Vessel	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	Thymus
Thyroid Gland	Trachea	Urinary Bladder	

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Moderate
	Medulla	Pheochromocytoma Nos	
	Cortex	Pigmentation	Mild
Clitoral Gland		Hyperplasia	Moderate
Eye		Cataract	Mild
	Retina	Degeneration	Marked
	[ Cataract TGLS = 3-15.3 ]		
	[ Degeneration TGLS = 3-15.3 ]		
Heart		Cardiomyopathy	Chronic, Mild
Kidney		Nephropathy	Chronic, Mild
	Renal Tubule	Pigmentation	Mild
Liver		Developmental Malformation	
		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
	[ Developmental Malformation TGLS = 5-15 ]		
Lung	Alveolus	Infiltration Cellular	Histiocyte, Minimal
		Infiltration Cellular	Lymphocyte, Mild
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
		Hyperplasia	Lymphoid, Mild
Note: REGIONAL L.N. HYPERPLASTIC			
Mammary Gland		Adenoma	

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02  
**Test Type:** CHRONIC  
**Species/Strain:** Rat/F 344/N

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Toluene  
**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014  
**Time Report Requested:** 16:56:54  
**First Dose M/F:** NA / NA  
**Lab:** IRDC

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<b>ANIMAL ID:</b> 16918	<b>TRT#:</b> 6 <b>DOSE:</b> 1200 PPM	<b>SEX:</b> Female <b>DISP:</b> Terminal Sacrifice	<b>DAY ON TEST:</b> 733 <b>HISTO:</b> 16918
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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Duct	Ectasia	Mild
[ Adenoma TGLS = 1-15.1 ]			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Mild
	Olfactory Epi	Erosion	Mild
	Lumen	Hemorrhage	Mild
	Mucosa	Inflammation	Acute, Mild
	Olfactory Epi	Metaplasia	Mild
Pituitary Gland	Pars Distalis	Adenoma	
Note: ADENOMA TGLs = 4-1			
Spleen		Hematopoietic Cell Proliferation	Minimal
		Pigmentation	Minimal
Uterus		Ectasia	Mild
[ Ectasia TGLS = 2-5 ]			

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: 05701-02

Test Type: CHRONIC

Species/Strain: Rat/F 344/N

P14: INDIVIDUAL ANIMAL PATHOLOGY DATA

Test Compound: Toluene

CAS Number: 108-88-3

Date Report Requested: 10/22/2014

Time Report Requested: 16:56:54

First Dose M/F: NA / NA

Lab: IRDC

ANIMAL ID: 16919

TRT#: 6

SEX: Female

DAY ON TEST: 730

DOSE: 1200 PPM

DISP: Terminal Sacrifice

HISTO: 16919

ORGAN AND ACCOUNTABLE SITE STATUS

NORMAL

Adrenal Gland - Medulla	Blood Vessel	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	Mammary Gland	Ovary	Parathyroid Gland
Salivary Glands	Skin	Stomach - Forestomach	Thymus
Thyroid Gland	Trachea	Urinary Bladder	Uterus

OBSERVATIONS

Adrenal Gland	Cortex	Degeneration	Fatty, Minimal
	Cortex	Hypertrophy	Mild
	Cortex	Pigmentation	Mild
Clitoral Gland		Inflammation	Chronic Active, Minimal
Heart		Cardiomyopathy	Chronic, Minimal
Kidney		Nephropathy	Chronic, Marked
	Renal Tubule	Pigmentation	Minimal
[ Nephropathy TGLS = 1-12 ]			
Liver		Angiectasis	Minimal
		Focal Cellular Change	
		Granuloma	Mild
	Bile Duct	Hyperplasia	Mild
	Portal	Inflammation	Chronic, Mild
Lung	Alveolus	Infiltration Cellular	Histiocyte, Mild
		Infiltration Cellular	Lymphocyte, Mild
	Interstitium	Inflammation	Chronic, Minimal
Lymph Node	Mandibular	Hyperplasia	Lymphoid, Mild
	Mesenteric	Hyperplasia	Lymphoid, Mild
Mesentery	Fat	Necrosis	Marked
Note: NECROSIS TGLs = 2-15			
Nose	Olfactory Epi	Degeneration	Mild
	Respirat Epith	Degeneration	Minimal
	Lumen	Hemorrhage	Mild

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** 05701-02

**Test Type:** CHRONIC

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

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Toluene

**CAS Number:** 108-88-3

**Date Report Requested:** 10/22/2014

**Time Report Requested:** 16:56:54

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

**Lab:** IRDC

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**ANIMAL ID:** 16919

**TRT#:** 6

**SEX:** Female

**DAY ON TEST:** 730

**DOSE:** 1200 PPM

**DISP:** Terminal Sacrifice

**HISTO:** 16919

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**ORGAN AND ACCOUNTABLE SITE STATUS**

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	Mucosa	Inflammation	Acute, Mild
	Olfactory Epi	Metaplasia	Minimal
Pancreas	Acinus	Atrophy	Mild
Pituitary Gland	Pars Distalis	Hyperplasia	Mild
Spleen		Hematopoietic Cell Proliferation	Mild
		Pigmentation	Mild
Stomach	Glandular	Inflammation	Acute, Mild

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PRIMARY CAUSE OF DEATH

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**\*\* END OF REPORT \*\***