

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate

**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**C Number:** C55050

**Cage Range:** All

**Date Range:** All

**Reasons For Removal:** All

**Removal Date Range:** All

**Treatment Groups:** All

**Study Gender:** Female

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_001

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Natural Death

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Focal Cellular Change
	Medulla	Hyperplasia, Focal
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_002

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Cystic
Lymph node	Mandibular Lymph Node	Inflammation, Granulomatous Focal
	Thymic Lymph Node	Inflammation, Granulomatous Focal
	Mandibular Lymph Node	Plasmacytosis
	Thymic Lymph Node	Plasmacytosis
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Uterus		Endometrial Stromal Polyp
	Endometrial Gland	Hyperplasia, Cystic

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_003

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Kidney		Nephropathy
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Angiectasis
		Endometrial Stromal Polyp

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_004

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Brain	Cerebrum	Atrophy, Pressure
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver	Periportal	Cytoplasmic Vacuolization
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Mammary gland		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Hyperplasia, C Cell
Uterus		Dilatation, Nos
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_005

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Heart	Epicardium	Inflammation, Acute/Chronic
Lung		Inflammation, Acute/Chronic
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Spleen	Red Pulp	Pigmentation, Nos
Thymus		Necrosis, Diffuse
Unspecified	Mediastinum Nos	Inflammation, Acute/Chronic

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_006

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Blood vessel	Mesenteric Artery Nos	Aneurysm
Bone marrow		Necrosis, Ischemic
Heart	Myocardium Nos	Degeneration, Nos
Kidney	Tubule	Pigmentation, Nos
Liver		Cytoplasmic Change, Basophilic
	Periportal	Cytoplasmic Vacuolization
Thymus	Cortex	Depletion, Lymphoid

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_007

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytologic Alteration, Nos
Bone marrow		Aplasia, Hematopoietic
		Fibrosis, Myelo
Clitoral gland		Adenocarcinoma, Nos
		Inflammation, Active Chronic
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Inflammation, Granulomatous Focal
	Periportal	Lymphocytic Inflammatory Infiltrate
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
Pituitary gland	Anterior Pituitary	Cyst, Nos
	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Cyst, Multiple
		Endometrial Stromal Polyp

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_008

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland

Medulla

Pheochromocytoma

Heart

Myocardium Nos

Degeneration, Nos

Kidney

Nephropathy

Lymph node

Mandibular Lymph Node

Plasmacytosis

Pancreas

Acinus

Atrophy, Focal

Thyroid

Islets

Islet-Cell Adenoma

Uterus

Hyperplasia, C Cell

Dilatation, Nos

Endometrial Stromal Polyp

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_009

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Lung

Spleen

Congestion, Nos

Depletion, Lymphoid

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_010

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hyperplasia, Focal
	Medulla	Hyperplasia, Focal
Brain	Ventricle	Hydrocephalus, Nos
Liver	Periportal	Cytoplasmic Vacuolization
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Uterus		Dilatation, Nos
		Endometrial Stromal Polyp

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_011

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
	Cortex Nos	Hyperplasia, Focal
Clitoral gland		Carcinoma, Nos
		Inflammation, Active Chronic
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Hemorrhage
	Mandibular Lymph Node	Plasmacytosis
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_012

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Necrosis, Focal
Kidney		Nephropathy
Liver	Hepatocytes	Cytoplasmic Vacuolization
	Bile Duct	Hyperplasia, Focal
		Necrosis, Focal
Mammary gland		Hyperplasia, Cystic
Stomach	Cardiac Stomach	Acanthosis
	Cardiac Stomach	Hyperkeratosis
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell

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**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_013

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Clitoral gland		Adenoma, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
	Mediastinum Nos	Lipoma
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_014

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Eye	Retina	Atrophy, Focal
	Crystalline Lens	Cataract
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_015

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Medulla

Hyperplasia, Focal

Cortex Nos

Necrosis, Focal

Kidney

Nephropathy

Pancreas

Acinus

Atrophy, Focal

Spleen

Red Pulp

Fibrosis, Multifocal

Unspecified

Multiple Organs Nos

Leukemia, Mononuclear Cell

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_016

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland  
Bone marrow  
Clitoral gland

Eye  
Heart  
Kidney  
Liver

Lymph node

Mammary gland  
Pituitary gland  
Thyroid

Retina  
Myocardium Nos

Mandibular Lymph Node  
Mandibular Lymph Node

Anterior Pituitary

Cortical Adenoma  
Fibrosis, Myelo  
Adenoma, Nos  
Cystic Ducts  
Atrophy, Diffuse  
Degeneration, Nos  
Nephropathy  
Cytoplasmic Change, Basophilic  
Inflammation, Granulomatous Focal  
Hemorrhage  
Plasmacytosis  
Hyperplasia, Cystic  
Cyst, Multiple  
Hyperplasia, C Cell

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_017

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
	Cortex Nos	Hyperplasia, Focal
Bone	Femur	Osteosclerosis
Bone marrow		Fibrosis, Myelo
Brain	Corpus Callosum Nos	Hemorrhage
	Corpus Callosum Nos	Malacia
Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Inflammation, Active Chronic
Mammary gland		Hyperplasia, Cystic
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_018

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
Clitoral gland		Hyperplasia, Focal
Heart	Myocardium Nos	Degeneration, Nos
Liver		Cytoplasmic Change, Basophilic
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Endometrial Stromal Polyp
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_019

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cortical Adenoma

Bone

Femur

Necrosis, Focal

Heart

Myocardium Nos

Osteosclerosis

Intestine Small

Mesentery Nos

Degeneration, Nos

Kidney

Inflammation, Granulomatous Focal

Liver

Bile Duct

Nephropathy

Lymph node

Mandibular Lymph Node

Hyperplasia, Focal

Mammary gland

Plasmacytosis

Pituitary gland

Anterior Pituitary

Hyperplasia, Cystic

Skin

Anterior Pituitary

Cyst, Hemorrhagic

Thyroid

Back

Hyperplasia, Focal

Unspecified

Multiple Organs Nos

Wound, Nos

Uterus

Endometrial Gland

Hyperplasia, C Cell

Leukemia, Mononuclear Cell

Hyperplasia, Cystic

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_020

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
Bone	Femur	Osteosclerosis
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
Lymph node	Mandibular Lymph Node	Plasmacytosis
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Dilatation, Nos
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_021

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Inflammation, Active Chronic
Liver	Hepatocytes	Cytoplasmic Vacuolization
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Ovary		Inflammation, Granulomatous Focal
Pancreas	Acinus	Atrophy, Focal
Stomach	Fundus	Ulcer, Acute
Thymus	Cortex	Depletion, Lymphoid
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_022

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland

Heart

Kidney

Liver

Lymph node

Mammary gland

Pituitary gland

Thyroid

Uterus

Myocardium Nos

Cortex

Bile Duct

Mandibular Lymph Node

Anterior Pituitary

Endometrial Gland

Cortical Adenoma

Degeneration, Nos

Cyst, Nos

Nephropathy

Cytoplasmic Change, Basophilic

Hyperplasia, Focal

Neoplastic Nodule

Plasmacytosis

Hyperplasia, Cystic

Papillary Cystadenoma, Nos

Adenoma, Nos

Hyperplasia, C Cell

Hyperplasia, Cystic

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_023

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Clear-Cell Change
		Cytoplasmic Change, Basophilic
		Inflammation, Granulomatous Focal
Lung		Congestion, Acute
Lymph node	Thymic Lymph Node	Hemorrhage
	Mandibular Lymph Node	Plasmacytosis
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Uterus		Endometrial Stromal Polyp

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

---

**ANIMAL ID:** 1\_024

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Adrenal gland

Cortex Nos

Necrosis, Focal

Brain

Cerebrum

Atrophy, Pressure

Liver

Periportal

Cytoplasmic Vacuolization

Bile Duct

Hyperplasia, Focal

Inflammation, Granulomatous Focal

Mammary gland

Hyperplasia, Cystic

Pituitary gland

Anterior Pituitary

Adenoma, Nos

Unspecified

Multiple Organs Nos

Leukemia, Mononuclear Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

---

**ANIMAL ID:** 1\_025

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Accidentally Killed

**HISTO:**

---

**OBSERVATIONS**

Liver	Hepatocytes	Necrosis, Focal
Lung		Congestion, Acute
Lymph node	Mandibular Lymph Node	Plasmacytosis
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Thymus	Cortex	Necrosis, Diffuse
Uterus		Dilatation, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_027

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
	Cortex Nos	Hyperplasia, Focal
Brain	Cerebrum	Astrocytoma
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Hemorrhage
	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
		Hyperplasia, Cystic
Pancreas	Islets	Islet-Cell Adenoma
Pituitary gland	Anterior Pituitary	Adenoma, Nos

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

---

**ANIMAL ID:** 1\_028

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Lymph node

Mesenteric Lymph Node

Inflammation, Granulomatous Focal

Pancreas

Duct Nos

Inflammation, Acute/Chronic

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_029

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Focal Cellular Change
Clitoral gland		Inflammation, Chronic Focal
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Ovary		Congestion, Nos
Pituitary gland	Anterior Pituitary	Cyst, Nos
	Anterior Pituitary	Hyperplasia, Focal
Skin	Shoulder	Basal-Cell Tumor
Stomach	Cardiac Stomach	Squamous Cell Papilloma
Uterus		Dilatation, Nos
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_030

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Clitoral gland		Carcinoma, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Infarct, Focal
		Nephropathy
Liver		Cytoplasmic Change, Basophilic
Lung		Alveolar/Bronchiolar Carcinoma
Lymph node	Mandibular Lymph Node	Hemorrhage
	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
Pituitary gland	Anterior Pituitary	Carcinoma, Nos
Thyroid		Hyperplasia, C Cell

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_031

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Clitoral gland		Inflammation, Active Chronic
Heart	Myocardium Nos	Degeneration, Nos
Liver		Cytoplasmic Change, Basophilic Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Hemorrhage
	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Uterus		Dilatation, Nos
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_032

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Medulla	Pheochromocytoma
Bone	Femur	Osteosclerosis
Eye	Retina	Atrophy, Focal
	Crystalline Lens	Cataract
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Clear-Cell Change
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Skin	Nose	Squamous Cell Papilloma
Thyroid		Follicular-Cell Adenoma
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_033

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

**OBSERVATIONS**

Brain	Cerebrum	Atrophy, Pressure
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal
	Bile Duct	Inflammation, Chronic Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Salivary gland		Dilatation, Ducts
Skin	Back	Cyst, Epidermal Inclusion
	Back	Ulcer, Nos
Unspecified	Back	Inflammation, Chronic Focal
Uterus		Dilatation, Nos

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_034

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Clitoral gland

Eye

Heart

Kidney

Liver

Retina

Myocardium Nos

Hyperplasia, Focal

Atrophy, Focal

Degeneration, Nos

Nephropathy

Clear-Cell Change

Cytoplasmic Change, Basophilic

Inflammation, Granulomatous Focal

Lymph node

Mandibular Lymph Node

Plasmacytosis

Thyroid

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_035

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Thymic Lymph Node	Inflammation, Granulomatous Focal
	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Cyst, Multiple
Uterus	Endometrial Gland	Hyperplasia, Cystic

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

---

**ANIMAL ID:** 1\_036

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Intestine Large	Cecum, Colon	Inflammation, Active Chronic
Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal
Lung		Alveolar Macrophages
		Hyperplasia, Alveolar Epithelium
Mammary gland		Fibroadenoma
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Endometrial Stromal Polyp

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_037

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Clear-Cell Change
		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Neoplastic Nodule
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Adenocarcinoma, Nos
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Dilatation, Nos
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_038

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Brain

Medulla Oblongata Nos

Hemorrhage

Liver

Bile Duct

Hyperplasia, Focal

Mammary gland

Hyperplasia, Cystic

Unspecified

Multiple Organs Nos

Leukemia, Mononuclear Cell

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**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

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**ANIMAL ID:** 1\_039

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver	Periportal	Cytoplasmic Vacuolization
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Ovary		Cyst, Parovarian
		Granulosa-Cell Tumor
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Uterus	Endometrial Gland	Hyperplasia, Cystic

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

---

**ANIMAL ID:** 1\_040

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Brain	Cerebrum	Atrophy, Pressure
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver	Periportal	Cytoplasmic Vacuolization
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Galactocele
		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenoma, Nos

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_041

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos Cortex Nos Medulla	Cytoplasmic Vacuolization Hyperplasia, Focal Pheochromocytoma
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic Inflammation, Granulomatous Focal
Lung		Ectopia
Lymph node	Mandibular Lymph Node Mandibular Lymph Node	Hemorrhage Plasmacytosis
Pituitary gland	Anterior Pituitary	Cyst, Multiple
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Dilatation, Nos Endometrial Stromal Polyp

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_042

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Bone marrow		Fibrosis, Myelo
Clitoral gland		Carcinoma, Nos
Heart	Myocardium Nos	Degeneration, Nos
Liver	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Cyst, Hemorrhagic
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Dilatation, Nos
		Endometrial Stromal Polyp
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_043

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hyperplasia, Focal
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Galactocele
		Hyperplasia, Cystic
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Dilatation, Nos
	Cervix Uteri	Fibrosis, Multifocal
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_044

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
		Hyperplasia, Cystic
Ovary		Cyst, Parovarian
Pituitary gland	Anterior Pituitary	Cyst, Nos
Thyroid		Hyperplasia, C Cell
Tongue	Mucosa	Acanthosis
	Mucosa	Hyperkeratosis
Uterus		Dilatation, Nos
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_045

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
Clitoral gland		Adenoma, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Hemorrhage
	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Cervix Uteri	Diverticulum
		Endometrial Stromal Polyp

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_046

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos Cortex Nos	Cytoplasmic Vacuolization Focal Cellular Change
Clitoral gland		Carcinoma, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal Inflammation, Granulomatous Focal
Lung		Emphysema, Alveolar
Lymph node	Mandibular Lymph Node Mandibular Lymph Node	Hemorrhage Plasmacytosis
Mammary gland		Dilatation, Ducts
Ovary	Follicle	Cyst, Multiple
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary Anterior Pituitary	Cyst, Hemorrhagic Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_047

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland

Medulla

Cortical Adenoma

Heart

Myocardium Nos

Hyperplasia, Focal

Kidney

Degeneration, Nos

Liver

Bile Duct

Nephropathy

Lymph node

Mandibular Lymph Node

Hyperplasia, Focal

Mammary gland

Thymic Lymph Node

Plasmacytosis

Pituitary gland

Anterior Pituitary

Plasmacytosis

Thyroid

Anterior Pituitary

Fibroadenoma

Unspecified

Multiple Organs Nos

Hyperplasia, Cystic

Uterus

Cervix Uteri

Cyst, Hemorrhagic

Endometrial Gland

Hyperplasia, Focal

Hyperplasia, C Cell

Leukemia, Mononuclear Cell

Diverticulum

Hyperplasia, Cystic

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_048

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Clitoral gland		Adenoma, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Cyst, Nos
	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Uterus		Endometrial Stromal Polyp
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_049

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hyperplasia, Focal
Bone marrow		Hyperplasia, Granulocytic
Clitoral gland		Carcinoma, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Skin	Back	Wound, Nos
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Dilatation, Nos

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 1\_050

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 010.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
	Medulla	Hyperplasia, Focal
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Ovary		Cyst, Follicular Nos
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:54

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

**Lab:** NA

**ANIMAL ID:** 2\_001

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Clitoral gland		Cystic Ducts
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lung		Hyperplasia, Alveolar Epithelium
Lymph node	Mandibular Lymph Node	Hemorrhage
	Mandibular Lymph Node	Plasmacytosis
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Skin	Ear	Squamous Cell Papilloma
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Endometrial Stromal Polyp

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 2\_002

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Clitoral gland		Adenoma, Nos
Harderian gland	Harderian Gland	Hyperplasia, Epithelial
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Mammary gland	Mammary Duct	Fibroadenoma
		Hyperplasia, Cystic
	Mammary Acinus	Hyperplasia, Stromal
Pituitary gland	Anterior Pituitary	Adenoma, Nos
	Anterior Pituitary	Cyst, Multiple
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_003

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland  
Bone marrow  
Heart  
Kidney  
Liver

Medulla

Pheochromocytoma  
Hyperplasia, Granulocytic  
Degeneration, Nos  
Nephropathy  
Cytoplasmic Change, Basophilic  
Inflammation, Granulomatous Focal  
Necrosis, Focal  
Plasmacytosis  
Cyst, Multiple  
Carcinoma, Nos  
Dilatation, Nos  
Endometrial Stromal Polyp  
Thrombosis, Nos

Myocardium Nos

Centrilobular

Lymph node  
Pituitary gland  
Uterus

Mandibular Lymph Node

Anterior Pituitary

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_004

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Brain	Medulla Oblongata Nos Cerebrum Ventricle	Adenocarcinoma, Nos, Invasive Atrophy, Pressure Hydrocephalus, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Inflammation, Granulomatous Focal Neoplastic Nodule
Lymph node	Mandibular Lymph Node Mandibular Lymph Node	Hemorrhage Plasmacytosis
Mammary gland		Adenocarcinoma, Nos Fibroadenoma Galactocele Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenocarcinoma, Nos
Skin	Face	Squamous Cell Papilloma
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 2\_005

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland	Medulla	Hyperplasia, Focal
Bone marrow		Hyperplasia, Granulocytic
Clitoral gland		Carcinoma, Nos
Harderian gland	Harderian Gland	Hyperplasia, Epithelial
Heart	Myocardium Nos	Degeneration, Nos
Liver		Cytoplasmic Change, Basophilic
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Parathyroid gland		Adenoma, Nos
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 2\_006

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

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**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_007

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
Bone	Femur	Osteosclerosis
Clitoral gland		Adenoma, Nos
Heart	Myocardium Nos	Degeneration, Nos
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lung		Hyperplasia, Alveolar Epithelium
Mammary gland		Fibroadenoma
		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Cyst, Multiple
		Endometrial Stromal Polyp

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_008

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland		Cortical Adenoma
Bone	Femur	Osteosclerosis
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Clear-Cell Change
		Cytoplasmic Change, Basophilic
		Inflammation, Granulomatous Focal
Mammary gland		Fibroadenoma
		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Adenoma, Nos
	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 2\_009

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Hemorrhage
	Mandibular Lymph Node	Plasmacytosis
Pancreas	Acinus	Atrophy, Focal
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_010

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos Cortex Nos Medulla	Cytoplasmic Vacuolization Hyperplasia, Focal Pheochromocytoma
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Pituitary gland	Anterior Pituitary Anterior Pituitary	Adenoma, Nos Cyst, Nos
Uterus		Endometrial Stromal Polyp
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_011

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Clitoral gland		Adenocarcinoma, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
		Papillary Cystadenoma, Nos
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Hyperplasia, C Cell

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_012

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Clitoral gland		Cystic Ducts
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
Lung		Alveolar/Bronchiolar Adenoma
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Cyst, Multiple
	Anterior Pituitary	Hyperplasia, Focal
Skin	Lip Nos	Basal-Cell Tumor
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_013

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
	Cortex Nos	Hyperplasia, Focal
Clitoral gland		Inflammation, Chronic Focal
Heart	Myocardium Nos	Degeneration, Nos
Kidney	Medulla	Mineralization
		Nephropathy
Liver		Cytoplasmic Change, Basophilic
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Ovary		Cyst, Follicular Nos
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Skin	Abdomen	Ulcer, Acute
Thyroid		Hyperplasia, C Cell
Ureter		Dilatation, Nos
		Hyperplasia, Epithelial
Uterus	Endometrial Gland	Cyst, Multiple

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 2\_014

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland

Capsule

Ectopia

Heart

Cortex Nos

Necrosis, Diffuse

Liver

Myocardium Nos

Degeneration, Nos

Thyroid

Bile Duct

Hyperplasia, Focal

Unspecified

Multiple Organs Nos

Hyperplasia, C Cell

Leukemia, Lymphocytic

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



Experiment Number: C55050

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Test Compound: Tetrakis(hydroxymethyl)phosphonium sulfate  
CAS Number: 55566-30-8

Date Report Requested: 10/26/2014

Time Report Requested: 14:20:55

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 2\_015

TRT#: 2

SEX: Female

DAY ON TEST:

DOSE: 005.0 MG/KG

DISP: Terminal Sacrifice

HISTO:

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
	Cortex Nos	Necrosis, Focal
Bone	Femur	Osteosclerosis
Bone marrow		Fibrosis, Myelo
Clitoral gland		Cystadenoma, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Cyst, Multiple
	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Unspecified	Abdomen	Inflammation, Active Chronic
	Multiple Organs Nos	Leukemia, Mononuclear Cell
	Abdomen	Necrosis, Ischemic
Uterus		Dilatation, Nos
		Endometrial Stromal Polyp
	Endometrial Gland	Hyperplasia, Cystic

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_016

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Eye	Retina	Atrophy, Focal
	Crystalline Lens	Cataract
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_017

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
	Cortex Nos	Hyperplasia, Focal
Clitoral gland		Adenoma, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

---

**ANIMAL ID:** 2\_018

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland

Capsule

Ectopia

Bone

Medulla

Pheochromocytoma

Heart

Femur

Osteosclerosis

Kidney

Myocardium Nos

Degeneration, Nos

Liver

Nephropathy

Lymph node

Thymic Lymph Node

Cytoplasmic Change, Basophilic

Uterus

Mandibular Lymph Node

Hemorrhage

Endometrial Gland

Plasmacytosis

Hyperplasia, Cystic

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_019

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
Clitoral gland		Hyperplasia, Focal
Heart	Myocardium Nos	Degeneration, Nos
	Right Atrium Nos	Dilatation, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
		Neoplastic Nodule
Lymph node	Mandibular Lymph Node	Hemorrhage
	Mandibular Lymph Node	Plasmacytosis
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Cyst, Multiple
	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Cyst, Multiple
		Dilatation, Nos
		Endometrial Stromal Polyp

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_020

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Focal Cellular Change
Brain	Cerebrum	Atrophy, Pressure
Clitoral gland		Cystic Ducts
		Hyperplasia, Focal
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
Lymph node	Thymic Lymph Node	Inflammation, Chronic Focal
	Mandibular Lymph Node	Plasmacytosis
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Spleen	Red Pulp	Inflammation, Granulomatous Focal
Thyroid		Follicular-Cell Adenoma
		Hyperplasia, C Cell
Uterus	Endometrial Gland	Cyst, Nos

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_021

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Focal Cellular Change
Heart	Myocardium Nos	Degeneration, Nos
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Thymic Lymph Node	Hemorrhage
	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Hemorrhage
	Anterior Pituitary	Hyperplasia, Focal
Stomach	Cardiac Stomach	Acanthosis
	Cardiac Stomach	Hyperkeratosis
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_022

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Natural Death

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Necrosis, Focal
Brain	Cerebrum	Atrophy, Pressure
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lung		Congestion, Acute
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Galactocele
Pituitary gland	Anterior Pituitary	Angiectasis
	Anterior Pituitary	Cyst, Hemorrhagic
Thymus	Medulla	Hyperplasia, Epithelial
Thyroid		C-Cell Adenoma

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 2\_023

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cortical Adenoma

Bone

Femur

Cytoplasmic Vacuolization

Heart

Myocardium Nos

Osteosclerosis

Kidney

Degeneration, Nos

Liver

Nephropathy

Bile Duct

Cytoplasmic Change, Eosinophilic

Lymph node

Mandibular Lymph Node

Hyperplasia, Focal

Pituitary gland

Anterior Pituitary

Plasmacytosis

Unspecified

Multiple Organs Nos

Hyperplasia, Focal

Leukemia, Mononuclear Cell

---

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 2\_024

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cortical Adenoma

Bone

Femur

Hyperplasia, Focal

Heart

Myocardium Nos

Osteosclerosis

Right Atrium Nos

Degeneration, Nos

Dilatation, Nos

Kidney

Nephropathy

Liver

Cytoplasmic Change, Basophilic

Lymph node

Mandibular Lymph Node

Plasmacytosis

Pituitary gland

Anterior Pituitary

Cyst, Multiple

Anterior Pituitary

Hyperplasia, Focal

Thyroid

C-Cell Adenoma

Uterus

Dilatation, Nos

Hemorrhage

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_025

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Brain	Cerebrum	Astrocytoma
Clitoral gland		Cyst, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Thymic Lymph Node	Hemorrhage
	Mandibular Lymph Node	Plasmacytosis
Pancreas	Acinus	Atrophy, Focal
Salivary gland		Atrophy, Focal
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Cyst, Nos

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 2\_026

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

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**PRIMARY CAUSE OF DEATH**

-

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**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_027

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Clitoral gland		Adenoma, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver	Bile Duct	Cytoplasmic Change, Basophilic Hyperplasia, Focal Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
Pituitary gland	Anterior Pituitary	Cyst, Multiple
Thyroid		Hyperplasia, C Cell
Uterus		Dilatation, Nos

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

---

**ANIMAL ID:** 2\_028

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Brain	Cerebrum	Atrophy, Pressure
	Cerebrum	Hydrocephalus, Nos
Heart	Myocardium Nos	Degeneration, Nos
Liver	Hepatocytes	Cytoplasmic Vacuolization
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Ovary		Pigmentation, Nos
Pituitary gland	Anterior Pituitary	Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_029

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
Bone marrow		Fibrosis, Myelo
Clitoral gland		Cyst, Multiple
Heart	Myocardium Nos	Degeneration, Nos
Liver	Bile Duct	Cytoplasmic Change, Basophilic
		Hyperplasia, Focal
Lung		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Inflammation, Granulomatous Focal
Mammary gland		Plasmacytosis
Pituitary gland	Anterior Pituitary	Hyperplasia, Cystic
Thyroid		Cyst, Hemorrhagic
Uterus	Endometrial Gland	C-Cell Carcinoma
		Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

---

**ANIMAL ID:** 2\_030

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hyperplasia, Focal
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
Lung		Congestion, Acute
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thymus		Depletion, Lymphoid

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_031

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Heart	Myocardium Nos	Degeneration, Nos
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Adenocarcinoma, Nos
		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_032

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Cyst, Multiple
	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Uterus		Dilatation, Nos
		Endometrial Stromal Polyp
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

---

**ANIMAL ID:** 2\_033

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Kidney

Liver

Lymph node

Mammary gland

Pituitary gland

Thymus

Unspecified

Bile Duct

Hepatocytes

Mandibular Lymph Node

Anterior Pituitary

Medulla

Multiple Organs Nos

Cortical Carcinoma

Nephropathy

Inflammation, Chronic Focal

Necrosis, Focal

Plasmacytosis

Plasmacytosis

Adenocarcinoma, Nos

Hyperplasia, Cystic

Adenoma, Nos

Thymoma, Benign

Leukemia, Mononuclear Cell

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**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_034

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Uterus		Angiectasis
	Fallopian Tube	Dilatation, Nos
		Dilatation, Nos
		Endometrial Stromal Polyp
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 2\_035

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Eye	Crystalline Lens	Cataract
Heart	Myocardium Nos	Degeneration, Nos
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lung		Aspiration, Foreign Body
		Congestion, Acute
Ovary		Cyst, Parovarian
Pituitary gland	Anterior Pituitary	Necrosis, Focal
Uterus	Endometrial Gland	Hyperplasia, Cystic

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_036

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Medulla	Pheochromocytoma
Bone	Femur	Osteosclerosis
Harderian gland	Harderian Gland	Hyperplasia, Epithelial
Kidney		Nephropathy
Liver	Hepatocytes	Cytoplasmic Vacuolization
	Bile Duct	Hyperplasia, Focal
Pituitary gland	Anterior Pituitary	Cyst, Nos
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_037

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hyperplasia, Focal
Bone marrow		Fibrosis, Myelo
Heart	Myocardium Nos	Degeneration, Nos
Liver		Cytoplasmic Change, Basophilic Inflammation, Granulomatous Focal
Lung	Alveoli	Lymphocytic Inflammatory Infiltrate
Lymph node	Mandibular Lymph Node	Cyst, Multiple
	Thymic Lymph Node	Inflammation, Granulomatous Focal
	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Spleen	Red Pulp	Inflammation, Granulomatous Focal
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_038

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Clitoral gland		Inflammation, Active Chronic
Kidney		Nephropathy
		Nephrosis, Hydro
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Inflammation, Granulomatous Focal
	Thymic Lymph Node	Inflammation, Granulomatous Focal
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Endometrial Stromal Polyp
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_039

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
Bone	Femur	Osteosclerosis
Bone marrow		Fibrosis, Myelo
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lung		Alveolar/Bronchiolar Adenoma
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Dilatation, Ducts
		Fibroadenoma
Pituitary gland	Anterior Pituitary	Cyst, Multiple
	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_040

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal
Lung		Aspiration, Foreign Body
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_041

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hyperplasia, Focal
Blood vessel	Coronary Artery Nos	Perivasculitis
Clitoral gland		Adenoma, Nos
		Inflammation, Active Chronic
Heart	Myocardium Nos	Degeneration, Nos
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

---

**ANIMAL ID:** 2\_042

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Bone marrow		Fibrosis, Myelo
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_043

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Harderian gland	Harderian Gland	Hyperplasia, Epithelial
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Hemorrhage
	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Skin	Back	Wound, Nos
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 2\_044

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland  
Kidney  
Liver  
Lung  
Pituitary gland  
Thyroid  
Unspecified

Cortex Nos  
Cortex  
Bile Duct

Anterior Pituitary

Multiple Organs Nos

Congestion, Nos  
Cyst, Multiple  
Hyperplasia, Focal  
Inflammation, Interstitial  
Cyst, Nos  
C-Cell Carcinoma  
Leukemia, Mononuclear Cell

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**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_045

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Change, Eosinophilic
	Cortex Nos	Hyperplasia, Focal
Bone marrow		Fibrosis, Myelo
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
Ovary		Cyst, Parovarian
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Adenoma, Nos
	Anterior Pituitary	Cyst, Multiple
Skin	Nose	Squamous Cell Papilloma
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 2\_046

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
Bone marrow		Fibrosis, Myelo
Brain	Cerebrum	Adenocarcinoma, Nos, Invasive
Clitoral gland		Cystic Ducts
		Hyperplasia, Focal
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
		Inflammation, Granulomatous Focal
Lymph node	Thymic Lymph Node	Inflammation, Granulomatous Focal
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenocarcinoma, Nos
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic
		Hyperplasia, Epithelial

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 2\_047

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Medulla	Pheochromocytoma, Malignant
Bone	Femur	Osteosclerosis
Bone marrow		Hyperplasia, Granulocytic
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephrosis, Hydro
Liver	Periportal	Cytoplasmic Vacuolization
	Bile Duct	Hyperplasia, Focal
Lymph node	Mesenteric Lymph Node	Hematopoiesis
	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Dilatation, Ducts
		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Unspecified	Multiple Organs Nos	Adenocarcinoma, Nos, Metastatic
Uterus		Adenocarcinoma, Nos

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 2\_048

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Adrenal gland

Medulla

Pheochromocytoma, Malignant

Heart

Myocardium Nos

Degeneration, Nos

Liver

Cytoplasmic Change, Basophilic

Lung

Alveolar Macrophages

Congestion, Acute

Edema, Nos

Lymph node

Renal Lymph Node

Inflammation, Granulomatous Focal

Pituitary gland

Anterior Pituitary

Adenoma, Nos

Thymus

Depletion, Lymphoid

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**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 2\_049

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
Lung		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Dilatation, Nos Hyperplasia, Cystic

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 2\_050

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 005.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cell-Size Alteration
	Cortex Nos	Cytoplasmic Vacuolization
	Cortex Nos	Hyperplasia, Focal
Bone	Femur	Osteosclerosis
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Pituitary gland	Anterior Pituitary	Cyst, Multiple
Uterus	Endometrial Gland	Hyperplasia, Cystic

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_001

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Stomach	Fundal Gland	Hyperplasia, Focal
	Submucosa	Inflammation, Active Chronic
Thyroid		C-Cell Carcinoma
Uterus		Dilatation, Nos
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_002

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal
Lung		Alveolar/Bronchiolar Adenoma
Lymph node	Pancreatic Lymph Node	Congestion, Nos
	Mesenteric Lymph Node	Inflammation, Granulomatous Focal
	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_003

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
Bone	Femur	Osteosclerosis
Heart	Myocardium Nos	Degeneration, Nos
Intestine Large	Colon	Parasitism
Kidney		Nephropathy
Liver		Inflammation, Granulomatous Focal
		Neoplastic Nodule
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

---

**ANIMAL ID:** 3\_004

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland	Cortex Nos Medulla	Cytoplasmic Vacuolization Hyperplasia, Focal
Bone marrow		Fibrosis, Myelo
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Follicular-Cell Carcinoma
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Serosa	Aneurysm
	Serosa	Thrombus, Organized

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_005

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Heart

Myocardium Nos

Degeneration, Nos

Liver

Cytoplasmic Change, Basophilic

Lymph node

Mandibular Lymph Node

Plasmacytosis

Mammary gland

Fibroadenoma

Pituitary gland

Anterior Pituitary

Adenoma, Nos

Thyroid

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

---

**ANIMAL ID:** 3\_006

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland	Medulla	Ganglioneuroma
	Cortex Nos	Hyperplasia, Focal
Bone	Femur	Osteosclerosis
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Cyst, Nos
	Mandibular Lymph Node	Inflammation, Active Chronic
	Thymic Lymph Node	Inflammation, Granulomatous Focal
Pituitary gland	Anterior Pituitary	Cyst, Hemorrhagic
	Anterior Pituitary	Hyperplasia, Focal
Spleen		Inflammation, Granulomatous Focal
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

---

**ANIMAL ID:** 3\_007

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Natural Death

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland		Carcinoma, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lung		Congestion, Acute
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenoma, Nos

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_008

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland  
Clitoral gland

Cortex Nos

Cytoplasmic Change, Basophilic  
Adenoma, Nos  
Inflammation, Active Chronic

Heart  
Kidney

Myocardium Nos

Degeneration, Nos  
Nephropathy

Liver

Lymph node

Mandibular Lymph Node

Cytoplasmic Change, Basophilic  
Plasmacytosis

Mammary gland

Pancreas

Acinus

Hyperplasia, Cystic

Pituitary gland

Anterior Pituitary

Atrophy, Focal

Thyroid

Adenoma, Nos

Hyperplasia, C Cell

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_009

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Natural Death

**HISTO:**

**OBSERVATIONS**

Bone marrow		Hyperplasia, Reticulum Cell
Heart	Myocardium Nos	Degeneration, Nos
Intestine Large	Colon	Parasitism
Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lung		Congestion, Acute
Lymph node	Mandibular Lymph Node	Plasmacytosis
Ovary		Congestion, Nos
Pituitary gland	Anterior Pituitary	Cyst, Multiple
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_010

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Clitoral gland		Inflammation, Chronic Focal
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Dilatation, Nos

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_011

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Medulla	Pheochromocytoma
Clitoral gland		Inflammation, Active Chronic
Eye	Retina	Atrophy, Diffuse
	Crystalline Lens	Cataract
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Hemorrhage
	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
		Galactocele
		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Endometrial Stromal Polyp

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_012

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Brain	Cerebrum	Atrophy, Pressure
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lung		Congestion, Acute
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
Pituitary gland	Anterior Pituitary	Adenoma, Nos

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_013

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Clitoral gland		Carcinoma, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
Lymph node	Inguinal Lymph Node	Cyst, Nos
	Mandibular Lymph Node	Plasmacytosis
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Dilatation, Nos

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_014

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Eye	Retina	Atrophy, Diffuse
	Crystalline Lens	Cataract
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Mammary gland		Fibroadenoma
		Hyperplasia, Cystic
Spleen		Inflammation, Granulomatous Focal
Uterus		Dilatation, Nos
		Endometrial Stromal Polyp

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_015

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lung		Alveolar/Bronchiolar Carcinoma
Lymph node	Mandibular Lymph Node	Plasmacytosis
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_016

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland

Cortex Nos

Hyperplasia, Focal

Heart

Myocardium Nos

Degeneration, Nos

Kidney

Nephropathy

Liver

Cytoplasmic Change, Basophilic

Bile Duct

Hyperplasia, Focal

Lymph node

Mandibular Lymph Node

Plasmacytosis

Pituitary gland

Anterior Pituitary

Adenoma, Nos

Uterus

Endometrial Gland

Dilatation, Nos

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**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_017

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Natural Death

**HISTO:**

**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Heart	Myocardium Nos	Degeneration, Nos
	Left Ventricle Nos	Thrombus, Mural
Intestine Small	Mesentery Nos	Inflammation, Granulomatous Focal
Liver	Centrilobular	Congestion, Chronic Passive
	Bile Duct	Hyperplasia, Focal
	Periportal Bile Ductule	Inflammation, Acute/Chronic
	Hepatocytes	Necrosis, Focal
		Neoplastic Nodule
Mammary gland		Fibroadenoma
		Hyperplasia, Cystic
Spleen	Follicles	Depletion, Lymphoid
Thymus		Depletion, Lymphoid

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_018

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Heart

Myocardium Nos

Degeneration, Nos

Right Atrium Nos

Dilatation, Nos

Kidney

Nephropathy

Liver

Bile Duct

Hyperplasia, Focal

Lymph node

Mandibular Lymph Node

Inflammation, Granulomatous Focal

Mammary gland

Plasmacytosis

Fibroadenoma

Galactocele

Pituitary gland

Anterior Pituitary

Hyperplasia, Cystic

Thyroid

Adenoma, Nos

Unspecified

Ear

Hyperplasia, C Cell

Neurofibrosarcoma

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_019

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland  
Heart  
Liver

Cortex Nos  
Myocardium Nos

Cytoplasmic Vacuolization  
Degeneration, Nos  
Cytoplasmic Change, Basophilic  
Inflammation, Granulomatous Focal

Lymph node  
Mammary gland

Mandibular Lymph Node

Plasmacytosis  
Fibroadenoma  
Hyperplasia, Cystic

Pituitary gland  
Thyroid  
Uterus

Anterior Pituitary

Cyst, Multiple  
Hyperplasia, C Cell  
Adenocarcinoma, Nos  
Hyperplasia, Cystic

Endometrial Gland

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_020

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Capsule	Cytoplasmic Vacuolization
	Cortex Nos	Hyperplasia, Focal
Clitoral gland		Carcinoma, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
		Hyperplasia, Cystic
Thyroid		C-Cell Adenoma
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_021

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cortical Adenoma

Heart

Myocardium Nos

Cytoplasmic Vacuolization

Kidney

Degeneration, Nos

Liver

Nephropathy

Hepatocytes

Cytoplasmic Change, Basophilic

Bile Duct

Cytoplasmic Vacuolization

Hyperplasia, Focal

Lung

Inflammation, Granulomatous Focal

Lymph node

Mandibular Lymph Node

Inflammation, Granulomatous Focal

Mammary gland

Plasmacytosis

Fibroadenoma

Pituitary gland

Anterior Pituitary

Hyperplasia, Cystic

Thyroid

Adenoma, Nos

Unspecified

Multiple Organs Nos

Hyperplasia, C Cell

Leukemia, Mononuclear Cell

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_022

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Natural Death

**HISTO:**

**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Inflammation, Granulomatous Focal
Lung		Alveolar Macrophages
		Congestion, Acute
		Inflammation, Interstitial
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Thymus	Medulla	Hyperplasia, Epithelial

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_023

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cell-Size Alteration
Brain	Cerebrum	Atrophy, Pressure
Ear	External Ear	Fibrosarcoma
Heart	Myocardium Nos	Degeneration, Nos
	Right Atrium Nos	Dilatation, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Pituitary gland	Anterior Pituitary	Cyst, Hemorrhagic
Skin	Dermis	Basal-Cell Tumor
	Ear	Ulcer, Nos
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Stroma	Inflammation, Active Chronic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_024

**TRT#:** 3  
**DOSE:** 0

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:**  
**HISTO:**

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hyperplasia, Focal
	Medulla	Hyperplasia, Focal
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Pancreas	Acinus	Atrophy, Focal
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

---

**ANIMAL ID:** 3\_026

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Natural Death

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lung		Hemorrhage
Pancreas		Atrophy, Focal

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_027

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland	Cortex Nos Cortex Nos	Focal Cellular Change Hemorrhage
Bone marrow		Hyperplasia, Hematopoietic
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Mammary gland		Hyperplasia, Cystic
Pancreas		Atrophy, Focal
		Inflammation, Chronic Focal
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Stomach		Inflammation, Acute Focal
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_028

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hyperplasia, Focal
Bone	Femur	Osteosclerosis
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Angiectasis
	Anterior Pituitary	Hyperplasia, Focal
Stomach	Fundus	Inflammation, Chronic Focal
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_029

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos Medulla	Hyperplasia, Focal Pheochromocytoma
Clitoral gland		Adenoma, Nos Inflammation, Chronic Focal
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal Inflammation, Granulomatous Focal
Lung		Pneumonia, Interstitial Chronic
Lymph node	Mandibular Lymph Node Mandibular Lymph Node	Hemorrhage Plasmacytosis
Mammary gland		Fibroadenoma Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Cyst, Multiple
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_030

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Clitoral gland		Adenoma, Nos Cystic Ducts Hyperplasia, Nos
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Cyst, Multiple
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

Experiment Number: C55050

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Test Compound: Tetrakis(hydroxymethyl)phosphonium sulfate  
CAS Number: 55566-30-8

Date Report Requested: 10/26/2014

Time Report Requested: 14:20:55

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 3\_031

TRT#: 3

SEX: Female

DAY ON TEST:

DOSE: 0

DISP: Terminal Sacrifice

HISTO:

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
	Cortex Nos	Focal Cellular Change
	Cortex Nos	Hyperplasia, Focal
Eye	Retina	Atrophy, Diffuse
	Crystalline Lens	Cataract
Heart	Myocardium Nos	Degeneration, Nos
Intestine Large	Colon	Parasitism
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Cyst, Nos
	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Dilatation, Nos

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_032

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Pituitary gland	Anterior Pituitary	Adenoma, Nos
	Anterior Pituitary	Cyst, Hemorrhagic
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_033

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Mammary gland		Fibroadenoma
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_034

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
		Inflammation, Granulomatous Focal
Lung		Lymphocytic Inflammatory Infiltrate
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Spleen	Perisplenic Region	Hemorrhage, Chronic
		Hemorrhage, Chronic
	Perisplenic Region	Inflammation, Chronic Focal
	Capsule	Rupture
Thymus		Hyperplasia, Epithelial

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_035

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
Ovary		Cyst, Follicular Nos
Thyroid		C-Cell Carcinoma
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_036

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hyperplasia, Focal
Eye	Retina	Atrophy, Focal
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
Lymph node	Mandibular Lymph Node	Congestion, Nos
	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Adenoma, Nos
		Fibroadenoma
Thyroid		Hyperplasia, C Cell
Unspecified	Orbital Region	Hemorrhage
	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Dilatation, Nos
		Endometrial Stromal Polyp

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

---

**ANIMAL ID:** 3\_037

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
	Cortex Nos	Hyperplasia, Focal
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
Lymph node	Mandibular Lymph Node	Hemorrhage
Mammary gland		Fibroadenoma
Pituitary gland	Anterior Pituitary	Cyst, Multiple
	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

---

**ANIMAL ID:** 3\_038

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Neoplastic Nodule
Lymph node	Pancreatic Lymph Node	Inflammation, Granulomatous Focal
	Mandibular Lymph Node	Plasmacytosis
Pancreas	Acinus	Atrophy, Focal
Pituitary gland	Anterior Pituitary	Adenoma, Nos
	Anterior Pituitary	Cyst, Embryonal Duct
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Endometrial Stromal Polyp

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_039

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Bone marrow

Kidney

Liver

Bile Duct

Mammary gland

Thyroid

Unspecified

Multiple Organs Nos

Hyperplasia, Reticulum Cell

Nephropathy

Cytoplasmic Change, Basophilic

Hyperplasia, Focal

Inflammation, Granulomatous Focal

Fibroadenoma

C-Cell Carcinoma

Leukemia, Mononuclear Cell

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**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

---

**ANIMAL ID:** 3\_040

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Bone marrow		Fibrosis, Myelo
Heart	Rt. Atrium	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Fibroadenoma
Pituitary gland	Anterior Pituitary	Adenoma, Nos
	Anterior Pituitary	Cyst, Hemorrhagic
Thyroid		Hyperplasia, C Cell

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_041

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Clitoral gland		Inflammation, Chronic Focal
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
	Mesenteric Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_042

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hyperplasia, Focal
Heart	Myocardium Nos	Degeneration, Nos
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Pituitary gland	Anterior Pituitary	Cyst, Multiple
	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Dilatation, Nos
		Endometrial Stromal Polyp
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_043

**TRT#:** 3  
**DOSE:** 0

**SEX:** Female  
**DISP:** Terminal Sacrifice

**DAY ON TEST:**  
**HISTO:**

**OBSERVATIONS**

Bone Clitoral gland	Femur	Osteosclerosis Adenoma, Nos Inflammation, Active Chronic Ulcer, Nos
Heart Kidney Liver	Rt. Atrium	Degeneration, Nos Nephrosis, Nos Cytoplasmic Change, Basophilic Inflammation, Granulomatous Focal
Lymph node Mammary gland	Mandibular Lymph Node	Plasmacytosis Fibroadenoma Hyperplasia, Cystic
Pituitary gland Unspecified	Anterior Pituitary Multiple Organs Nos	Adenoma, Nos Leukemia, Mononuclear Cell

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_044

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hyperplasia, Focal
Heart	Myocardium Nos	Degeneration, Nos
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Cyst, Multiple
	Anterior Pituitary	Hyperplasia, Focal
Thyroid		Hyperplasia, C Cell
Uterus		Dilatation, Nos
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_045

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone	Femur	Osteosclerosis
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Endometrial Stromal Polyp
	Endometrial Gland	Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_046

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland

Medulla

Cortical Adenoma

Bone

Femur

Pheochromocytoma

Heart

Myocardium Nos

Osteosclerosis

Kidney

Degeneration, Nos

Liver

Nephropathy

Cytoplasmic Change, Basophilic

Lymph node

Mandibular Lymph Node

Inflammation, Granulomatous Focal

Thymic Lymph Node

Hemorrhage

Mandibular Lymph Node

Inflammation, Granulomatous Focal

Mammary gland

Plasmacytosis

Pancreas

Acinus

Hyperplasia, Cystic

Pituitary gland

Anterior Pituitary

Atrophy, Focal

Thyroid

Adenoma, Nos

Uterus

Endometrial Gland

C-Cell Adenoma

Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

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**ANIMAL ID:** 3\_047

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Natural Death

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Hyperplasia, Focal
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Tetrakis(hydroxymethyl)phosphonium sulfate  
**CAS Number:** 55566-30-8

**Date Report Requested:** 10/26/2014

**Time Report Requested:** 14:20:55

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

**Lab:** NA

**ANIMAL ID:** 3\_048

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland

Medulla

Cortical Adenoma

Bone

Femur

Pheochromocytoma

Heart

Myocardium Nos

Osteosclerosis

Kidney

Degeneration, Nos

Liver

Nephropathy

Cytoplasmic Change, Basophilic

Lung

Inflammation, Granulomatous Focal

Lymph node

Mandibular Lymph Node

Pneumonia, Interstitial Chronic

Mammary gland

Plasmacytosis

Ovary

Hyperplasia, Cystic

Pancreas

Cyst, Follicular Nos

Pituitary gland

Acinus

Atrophy, Focal

Spleen

Anterior Pituitary

Adenoma, Nos

Thyroid

Follicles

Depletion, Lymphoid

Hyperplasia, C Cell

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C55050

**Test Type:** Long-Term

**Route:** Gavage

**Species/Strain:** Rat/F344

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

**Lab:** NA

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**ANIMAL ID:** 3\_049

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
Bone	Femur	Osteosclerosis
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Clear-Cell Change
		Cytoplasmic Change, Basophilic
		Inflammation, Granulomatous Focal
Lung		Pneumonia, Interstitial Chronic
Lymph node	Mandibular Lymph Node	Hemorrhage
	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Hyperplasia, C Cell
Uterus	Endometrial Gland	Hyperplasia, Cystic

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

Experiment Number: C55050

Test Type: Long-Term

Route: Gavage

Species/Strain: Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
Test Compound: Tetrakis(hydroxymethyl)phosphonium sulfate  
CAS Number: 55566-30-8

Date Report Requested: 10/26/2014

Time Report Requested: 14:20:55

First Dose M/F: NA / NA

Lab: NA

ANIMAL ID: 3\_050

TRT#: 3  
DOSE: 0

SEX: Female  
DISP: Terminal Sacrifice

DAY ON TEST:  
HISTO:

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Cytoplasmic Vacuolization
	Cortex Nos	Hyperplasia, Focal
Clitoral gland		Carcinoma, Nos
		Inflammation, Active Chronic
Heart	Myocardium Nos	Degeneration, Nos
Kidney		Nephropathy
Liver		Cytoplasmic Change, Basophilic
	Bile Duct	Hyperplasia, Focal
		Inflammation, Granulomatous Focal
Lung		Hyperplasia, Alveolar Epithelium
Lymph node	Mandibular Lymph Node	Plasmacytosis
Mammary gland		Hyperplasia, Cystic
Pancreas	Islets	Islet-Cell Adenoma
Pituitary gland	Anterior Pituitary	Adenoma, Nos
Thyroid		Hyperplasia, C Cell
Unspecified	Multiple Organs Nos	Leukemia, Mononuclear Cell
Uterus		Dilatation, Nos
	Endometrial Gland	Hyperplasia, Cystic

PRIMARY CAUSE OF DEATH

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**\*\* END OF REPORT \*\***

\* PROTOCOL REQUIRED TISSUE