

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:30  
**First Dose M/F:** NA / NA  
**Lab:** NA

<b>C Number:</b>	C54842
<b>Cage Range:</b>	All
<b>Date Range:</b>	All
<b>Reasons For Removal:</b>	All
<b>Removal Date Range:</b>	All
<b>Treatment Groups:</b>	All
<b>Study Gender:</b>	Male

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:30  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_001

**TRT#:** 1  
**DOSE:** 120.0 MG/KG

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

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

**OBSERVATIONS**

Blood		Leukocytosis, Neutrophilic
Bone marrow		Hyperplasia, Granulocytic
Brain		Mineralization
Epididymis		Inflammation, With Fibrosis
Intestine Large	Crypt/Lieberkuhn, Colon	Atrophy, Diffuse
	Cecum, Colon	Inflammation, Chronic Necrotizing
Intestine Small	Intestinal Villus, Ileum	Atrophy, Diffuse
Kidney	Cortex	Nephropathy
Liver		Fibrosarcoma, Metastatic
Lung		Fibrosarcoma, Metastatic
		Fibrosis, Focal
		Inflammation, Interstitial
Salivary gland		Atrophy, Diffuse
Spleen	Red Pulp	Hematopoiesis
		Hypoplasia, Lymphoid
Unspecified	Flank	Fibrosarcoma

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:30  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_002

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Kidney		Lymphoma, Nos-Malignant
Liver		Hepatocellular Carcinoma
Lung		Hepatocellular Carcinoma, Metastatic
Prostate		Inflammation, Acute/Chronic
Skin	Shaft	Pigmentation, Nos
Spleen	Red Pulp	Hematopoiesis
Testis	Scrotum Nos	Inflammation, Chronic Focal

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:30  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_003

**TRT#:** 1  
**DOSE:** 120.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

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**OBSERVATIONS**

Liver	Centrilobular	Degeneration, Nos
Pancreas	Acinus	Atrophy, Focal
Skin	Hair Follicle	Pigmentation, Nos

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:30  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_004

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Brain		Mineralization
Kidney	Cortex	Nephropathy
Liver		Hepatocellular Adenoma
Lymph node	Mesenteric Lymph Node	Hemorrhage
Pancreas	Acinus	Atrophy, Focal
Skin	Shaft	Pigmentation, Nos
	Epidermis	Ulcer, Chronic
Spleen	Red Pulp	Hematopoiesis
Thyroid		Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:30  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_005

**TRT#:** 1  
**DOSE:** 120.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

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**OBSERVATIONS**

Bone marrow  
Liver  
Lung  
Seminal vesicle  
Spleen

Centrilobular

Congestion, Acute  
Cytoplasmic Vacuolization  
Alveolar/Bronchiolar Adenoma  
Dilatation, Nos  
Depletion, Lymphoid

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:30  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_006

**TRT#:** 1  
**DOSE:** 120.0 MG/KG

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

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

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hypertrophy, Focal
Brain		Mineralization
Kidney	Cortex	Nephropathy
Lung		Alveolar/Bronchiolar Carcinoma
Pancreas	Acinus	Atrophy, Focal
Skin	Shaft	Pigmentation, Nos
Spleen	Follicles	Hyperplasia, Lymphoid

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:30  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_007

**TRT#:** 1  
**DOSE:** 120.0 MG/KG

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

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

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hypertrophy, Focal
Bone marrow		Hyperplasia, Diffuse
Brain		Mineralization
Kidney	Cortex	Cyst, Nos
	Cortex	Nephropathy
Liver		Hepatocellular Carcinoma
Lung		Alveolar/Bronchiolar Adenoma
		Congestion, Acute
Pancreas	Acinus	Atrophy, Focal
Seminal vesicle		Dilatation, Nos
Skin	Dermis	Fibrosis, Diffuse
		Inflammation, Chronic Focal

PRIMARY CAUSE OF DEATH

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:30  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_008

**TRT#:** 1  
**DOSE:** 120.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

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**OBSERVATIONS**

Brain	Thalamus	Mineralization
Kidney	Tubule	Cytoplasmic Vacuolization
	Cortex	Nephropathy
Liver	Hepatocytes	Atrophy, Focal
		Congestion, Chronic
		Hepatocellular Carcinoma
Pancreas	Acinus	Atrophy, Focal
Skin	Shaft	Pigmentation, Nos

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:30  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_009

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Epididymis		Granuloma, Spermatic
Liver		Hepatocellular Carcinoma
Pancreas	Acinus	Atrophy, Focal
Skin	Dermis	Fibrosis, Diffuse
	Epidermis	Ulcer, Nos
Stomach		Acanthosis

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_010

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Brain		Mineralization
Intestine Small	Ileum	Histiocytosis
Kidney	Cortex	Nephropathy
Liver	Hepatocytes	Necrosis, Focal
Lymph node	Mediastinal Lymph Node	Histiocytosis
Pancreas	Acinus	Atrophy, Focal
		Histiocytosis
Spleen	Follicles	Atrophy, Diffuse
	Red Pulp	Hematopoiesis
Unspecified	Multiple Organs Nos	Lymphoma, Histiocytic-Malignant Type

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_011

**TRT#:** 1  
**DOSE:** 120.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

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**OBSERVATIONS**

Bone marrow		Congestion, Acute
Brain		Mineralization
Lung		Congestion, Acute
Lymph node	Inguinal Lymph Node	Inflammation, Chronic Focal
Skin	Shaft	Pigmentation, Nos
Testis	Tubule	Degeneration, Nos

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_012

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Kidney  
Prostate  
Spleen  
Urinary bladder

Red Pulp

Pyelonephritis, Chronic  
Inflammation, Chronic Focal  
Hematopoiesis  
Inflammation, Chronic Focal

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_013

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Brain		Mineralization
Epididymis		Necrosis, Focal
Liver		Hepatocellular Carcinoma
Skin	Shaft	Pigmentation, Nos
Unspecified	Multiple Organs Nos	Congestion, Acute

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_014

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

**OBSERVATIONS**

Brain		Hydrocephalus, Nos
Intestine Large	Colon	Parasitism
Kidney		Pyelonephritis, Acute
Liver		Leukocytosis, Neutrophilic
Lung	Alveolar Wall	Leukocytosis, Neutrophilic
Prostate		Inflammation, Acute Suppurative
Skin	Back	Inflammation, Chronic Suppurative
	Back	Ulcer, Chronic
Spleen	Red Pulp	Hematopoiesis
	Follicles	Hypoplasia, Lymphoid

PRIMARY CAUSE OF DEATH

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_015

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Bone marrow  
Kidney  
Liver  
Pancreas  
Skin

Cortex

Acinus

Unspecified

Multiple Organs Nos

Abscess, Nos  
Nephropathy  
Inflammation, Granulomatous Focal  
Atrophy, Focal  
Abscess, Chronic  
Inflammation, Chronic Focal  
Lymphoma, Undifferentiated-Malignant Type

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PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_016

**TRT#:** 1  
**DOSE:** 120.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

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**OBSERVATIONS**

Liver		Hepatocellular Carcinoma
Pancreas	Acinus	Atrophy, Focal
Prostate		Inflammation, Acute Suppurative
Unspecified	Multiple Organs Nos	Lymphoma, Nos-Malignant

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_017

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Medulla	Degeneration, Nos
Bone marrow		Hyperplasia, Diffuse
Brain		Mineralization
Epididymis		Granuloma, Spermatic
Gall bladder		Cyst, Nos
Kidney	Cortex	Nephropathy
Liver		Focal Cellular Change
Lung		Congestion, Acute
Pancreas	Acinus	Atrophy, Focal
Skin	Dermis	Inflammation, Acute/Chronic
	Dermis	Inflammation, Chronic Suppurative
	Shaft	Pigmentation, Nos
	Epidermis	Ulcer, Chronic

**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_018

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Brain		Mineralization
Epididymis		Atrophy, Diffuse
Kidney	Cortex	Nephropathy
Lung		Congestion, Acute
		Hemorrhage
Pancreas	Acinus	Atrophy, Focal
Preputial gland		Cyst, Nos
Skin	Shaft	Pigmentation, Nos
Testis	Tubule	Atrophy, Diffuse
Thyroid		Follicular-Cell Adenoma

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_019

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

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**OBSERVATIONS**

Kidney	Cortex	Nephropathy
Liver		Hepatocellular Adenoma
Lung		Hemorrhage
Pancreas	Acinus	Atrophy, Focal

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_020

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hypertrophy, Focal
Brain		Mineralization
Epididymis		Granuloma, Spermatic
Kidney	Cortex	Nephropathy
Liver		Hepatocellular Carcinoma
Lymph node		Hematopoiesis
Pancreas	Mesenteric Lymph Node	Hemorrhage
Seminal vesicle	Acinus	Atrophy, Focal
Skin	Shaft	Dilatation, Nos
Testis	Tubule	Pigmentation, Nos
Thyroid	Follicle	Atrophy, Focal
		Hyperplasia, Cystic

**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_021

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Bone marrow		Congestion, Acute
Kidney	Cortex	Nephropathy
Pancreas	Acinus	Atrophy, Diffuse
Pituitary gland		Hyperplasia, Focal
Prostate		Atrophy, Diffuse
Salivary gland		Atrophy, Focal
Skin	Shaft	Pigmentation, Nos
Stomach	Fundal Gland	Metaplasia, Nos
Testis	Tubule	Atrophy, Diffuse

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_022

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

**OBSERVATIONS**

Bone marrow		Congestion, Acute
Heart	Atrium	Thrombus, Organized
Intestine Large	Colon	Parasitism
Kidney	Tubule	Atrophy, Focal
		Congestion, Acute
Liver		Hepatocellular Carcinoma
Lung		Alveolar Macrophages
		Inflammation, Interstitial
Pancreas	Acinus	Atrophy, Focal
Pituitary gland		Congestion, Acute
Skin	Shaft	Pigmentation, Nos
Spleen	Red Pulp	Hematopoiesis
Thymus		Atrophy, Diffuse

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_023

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Pancreas  
Pituitary gland  
Skin  
Testis

Acinus  
  
Shaft

Atrophy, Focal  
Congestion, Acute  
Pigmentation, Nos  
Metaplasia, Osseous

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_024

**TRT#:** 1  
**DOSE:** 120.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

**OBSERVATIONS**

Adrenal gland	Zona Fasciculata	Necrosis, Focal
Liver		Hepatocellular Carcinoma
Lung		Congestion, Acute
		Hepatocellular Carcinoma, Metastatic
Lymph node	Mandibular Lymph Node	Depletion, Lymphoid
Pancreas	Islets	Hyperplasia, Focal
Spleen	Red Pulp	Hematopoiesis
	Follicles	Hypoplasia, Lymphoid

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_025

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Epididymis		Inflammation, Chronic Suppurative
Intestine Large	Colon	Parasitism
Kidney	Tubule	Atrophy, Focal
Liver		Focal Cellular Change
Pancreas	Acinus	Atrophy, Focal
Pituitary gland		Cyst, Nos
Prostate		Inflammation, Acute/Chronic
Skin		Abscess, Chronic
	Shaft	Pigmentation, Nos
Spleen	Follicles	Atrophy, Diffuse
	Red Pulp	Hematopoiesis
Urinary bladder		Inflammation, Chronic Focal

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_026

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

**OBSERVATIONS**

Bone marrow		Congestion, Acute
		Hyperplasia, Diffuse
Brain		Mineralization
Intestine Large	Colon	Parasitism
Kidney	Cortex	Metaplasia, Osseous
Liver	Centrilobular	Cytoplasmic Vacuolization
Lymph node	Mesenteric Lymph Node	Hyperplasia, Lymphoid
	Renal Lymph Node	Hyperplasia, Lymphoid
	Mesenteric Lymph Node	Necrosis, Focal
	Renal Lymph Node	Necrosis, Focal
Pancreas	Acinus	Atrophy, Focal
	Islets	Hyperplasia, Focal
Skin	Shaft	Pigmentation, Nos
Spleen	Follicles	Necrosis, Focal
Trachea	Gland	Hyperplasia, Focal

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 1\_027

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Kidney	Cortex	Nephropathy
Lymph node	Mesenteric Lymph Node	Hemorrhage
Pancreas	Acinus	Atrophy, Focal
Unspecified	Abdomen	Neurofibrosarcoma

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 1\_028

**TRT#:** 1  
**DOSE:** 120.0 MG/KG

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

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

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**OBSERVATIONS**

Brain		Mineralization
Kidney	Cortex	Nephropathy
Liver		Hemangiosarcoma
Lung		Alveolar/Bronchiolar Adenoma
Pancreas	Acinus	Atrophy, Focal
Skin	Sebaceous Gland	Hyperplasia, Focal
Spleen	Red Pulp	Hematopoiesis

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_029

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Brain		Mineralization
Kidney	Cortex	Nephropathy
Liver		Focal Cellular Change
		Hepatocellular Adenoma
		Hepatocellular Carcinoma
Lung		Congestion, Acute
		Hemorrhage
Pancreas	Acinus	Atrophy, Focal
Skin	Shaft	Pigmentation, Nos
Spleen	Follicles	Hyperplasia, Lymphoid
Urinary bladder		Hyperplasia, Epithelial
		Lymphocytic Inflammatory Infiltrate

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_030

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone	Joint Of Lower Extremity	Inflammation, Chronic Suppurative
Bone marrow		Hyperplasia, Granulocytic
Brain		Mineralization
Epididymis		Inflammation, Acute/Chronic
Kidney	Cortex	Nephropathy
Liver		Inflammation, Acute Focal
Lymph node	Mesenteric Lymph Node	Hemorrhage
Pancreas	Acinus	Atrophy, Focal
Seminal vesicle		Dilatation, Nos
Skin	Shaft	Pigmentation, Nos
Spleen	Red Pulp	Hematopoiesis
Thyroid	Follicle	Hyperplasia, Cystic
Unspecified	Mediastinum Nos	Hematopoiesis

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_031

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Brain		Mineralization
Epididymis		Inflammation, Acute/Chronic
Kidney	Cortex	Mineralization
	Cortex	Nephropathy
Pancreas	Acinus	Atrophy, Focal
Skin	Shaft	Pigmentation, Nos

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_032

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Brain

Mineralization

Eye

Phthisis Bulbi

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 1\_033

**TRT#:** 1  
**DOSE:** 120.0 MG/KG

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

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

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hypertrophy, Focal
Bone marrow		Hyperplasia, Diffuse
Brain		Mineralization
Kidney	Cortex	Nephropathy
Liver		Hepatocellular Carcinoma
Skin	Shaft	Pigmentation, Nos
Spleen	Red Pulp	Hematopoiesis
Unspecified		Fibrosarcoma

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 1\_034

**TRT#:** 1  
**DOSE:** 120.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Bone marrow		Hemorrhage
Brain		Hemorrhage
Kidney	Cortex	Mineralization
Liver		Hepatocellular Carcinoma
	Hepatocytes	Hyperplasia, Focal
Prostate		Inflammation, Acute Suppurative
Skin	Shaft	Pigmentation, Nos

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 1\_035

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Bone marrow		Congestion, Acute
Brain		Mineralization
Kidney		Pyelonephritis, Acute
Prostate		Inflammation, Acute Suppurative
Skin	Epidermis	Acanthosis
	Hair Follicle	Atrophy, Diffuse
	Dermis	Fibrosis, Diffuse
	Shaft	Pigmentation, Nos
Spleen	Follicles	Atrophy, Diffuse
	Red Pulp	Hematopoiesis

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 1\_036

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Kidney	Cortex	Nephropathy
Lung		Alveolar/Bronchiolar Carcinoma
Pancreas	Acinus	Atrophy, Diffuse
Skin	Shaft	Pigmentation, Nos
Spleen	Red Pulp	Hematopoiesis
Unspecified	Multiple Organs Nos	Alveolar/Bronchiolar Carcinoma, Metastatic

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_037

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Pancreas  
Seminal vesicle  
Skin

Acinus  
Shaft

Atrophy, Focal  
Dilatation, Nos  
Pigmentation, Nos

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_038

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

**OBSERVATIONS**

Bone marrow		Hypoplasia, Nos
Heart	Myocardium Nos	Atrophy, Focal
	Myocardium Nos	Inflammation, Acute/Chronic
Lung		Alveolar/Bronchiolar Adenoma
		Congestion, Acute
Pancreas	Acinus	Atrophy, Focal
		Necrosis, Fat
		Necrosis, Ischemic
Pituitary gland		Congestion, Acute
Prostate		Inflammation, Acute Suppurative
Stomach		Hyperkeratosis
Thymus		Atrophy, Diffuse
Unspecified	Multiple Organs Nos	Hemangiosarcoma

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_039

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Lung		Fibrosarcoma, Metastatic
Lymph node	Mesenteric Lymph Node	Hemorrhage
Spleen	Red Pulp	Hematopoiesis
Unspecified	Chest	Fibrosarcoma
	Mediastinum Nos	Fibrosarcoma, Metastatic

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**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_040

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland		Pheochromocytoma
Kidney		Pyelonephritis, Acute
Lung		Congestion, Acute
		Hemorrhage
Lymph node	Mesenteric Lymph Node	Edema, Nos
	Mesenteric Lymph Node	Hemorrhage
	Mesenteric Lymph Node	Hypoplasia, Lymphoid
Pancreas	Acinus	Atrophy, Focal
Pituitary gland		Cyst, Multiple
Prostate		Inflammation, Suppurative
Spleen	Red Pulp	Congestion, Acute
Testis	Tubule	Atrophy, Diffuse
Urinary bladder		Inflammation, Chronic Necrotizing

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_041

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

**OBSERVATIONS**

Bone marrow  
Kidney  
Liver  
Lung  
Prostate  
Seminal vesicle

Congestion, Acute  
Pyelonephritis, Chronic  
Necrosis, Ischemic  
Congestion, Acute  
Inflammation, Chronic Suppurative  
Dilatation, Nos  
Hyperplasia, Focal  
Pigmentation, Nos

Skin

Shaft

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_042

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Intestine Small	Ileum	Hyperplasia, Lymphoid
Kidney	Cortex	Mineralization
	Cortex	Nephropathy
	Pelvis	Nephrosis, Hydro
Liver	Hepatocytes	Degeneration, Lipoid
Lung		Alveolar/Bronchiolar Carcinoma
Lymph node		Hemorrhage
		Hyperplasia, Reticulum Cell
Pancreas	Acinus	Atrophy, Focal
Peritoneum		Necrosis, Fat
Skin	Shaft	Pigmentation, Nos
Spleen	Follicles	Hyperplasia, Diffuse
Thyroid		Cyst, Nos

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_043

**TRT#:** 1  
**DOSE:** 120.0 MG/KG

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

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

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**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Brain	White Matter	Mineralization Mineralization
Epididymis		Granuloma, Spermatic
Liver		Hepatocellular Adenoma
Pancreas	Acinus	Atrophy, Focal
Skin	Shaft	Pigmentation, Nos

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_044

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Brain	Ependyma	Hemorrhage
Intestine Small	Mucosa	Atrophy, Focal
Kidney		Pyelonephritis, Acute
Lymph node		Hemorrhage
Pancreas	Acinus	Atrophy, Focal
Prostate		Inflammation, Acute Suppurative
Seminal vesicle		Dilatation, Nos
Skin	Shaft	Pigmentation, Nos
Spleen	Red Pulp	Hematopoiesis
Urinary bladder		Inflammation, Chronic Necrotizing

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_045

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

**OBSERVATIONS**

Kidney	Cortex	Nephropathy
Lymph node	Mesenteric Lymph Node	Hemorrhage
	Mesenteric Lymph Node	Hyperplasia, Lymphoid
Skin	Epidermis	Acanthosis
	Dermis	Fibrosis, Focal
	Shaft	Pigmentation, Nos
Spleen	Red Pulp	Hematopoiesis
Unspecified	Chest	Sarcoma, Nos

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 1\_046

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Bone marrow  
Brain  
Lymph node

Congestion, Acute  
Mineralization  
Hemorrhage  
Hyperplasia, Reticulum Cell  
Hypoplasia, Lymphoid  
Pigmentation, Nos

Skin

Shaft

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 1\_047

**TRT#:** 1  
**DOSE:** 120.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Lymph node  
Seminal vesicle  
Thymus

Lymphocytes

Hemorrhage  
Dilatation, Nos  
Necrosis, Diffuse

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 1\_048

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Brain		Mineralization
Harderian gland	Harderian Gland	Adenoma, Nos
Kidney	Cortex	Nephropathy
Liver		Hepatocellular Adenoma Hepatocellular Carcinoma
Lung		Alveolar/Bronchiolar Carcinoma
Pancreas	Acinus	Atrophy, Focal
Skin	Shaft	Pigmentation, Nos
Unspecified	Periorbital Region	Inflammation, Chronic Suppurative

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 1\_049

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Intestine Large  
Liver

Colon

Parasitism  
Hepatocellular Carcinoma  
Necrosis, Coagulative

Lung  
Skin  
Spleen

Shaft

Inflammation, Acute Focal  
Pigmentation, Nos  
Hematopoiesis

Red Pulp

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 1\_050

**TRT#:** 1

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 120.0 MG/KG

**DISP:** Natural Death

**HISTO:**

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**OBSERVATIONS**

Kidney  
Liver  
Lymph node

Pelvis  
Hepatocytes  
Mandibular Lymph Node

Nephrosis, Hydro  
Focal Cellular Change  
Hemorrhage

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_001

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Brain		Mineralization
Intestine Small	Intestinal Villus, Ileum	Atrophy, Nos
Kidney		Inflammation, Interstitial
Liver		Hepatocellular Carcinoma
Unspecified	Multiple Organs Nos	Inflammation, Acute/Chronic Sarcoma, Nos

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_002

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Kidney		Pyelonephritis, Chronic
Liver		Hepatocellular Carcinoma
Lung		Inflammation, Interstitial
Spleen	Follicles	Atrophy, Diffuse
	Red Pulp	Hematopoiesis
Unspecified	Multiple Organs Nos	Congestion, Acute

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_003

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Kidney	Glomerulus	Atrophy, Diffuse
	Tubule	Atrophy, Diffuse
		Nephrosis, Hydro
		Pyelonephritis, Chronic
Liver		Hepatocellular Carcinoma
		Necrosis, Coagulative
Lung		Congestion, Acute
		Inflammation, Interstitial
Spleen	Red Pulp	Hematopoiesis
Thymus	Lymphocytes	Necrosis, Nos
Urinary bladder		Inflammation, Chronic Focal

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_004

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Brain	Thalamus	Mineralization
Kidney	Tubule	Inflammation, Acute Suppurative
	Tubule	Mineralization
Prostate		Inflammation, Acute Diffuse
		Inflammation, Acute Suppurative
Spleen	Red Pulp	Hematopoiesis

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_005

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Kidney	Pelvis	Inflammation, Suppurative
Prostate		Inflammation, Acute Suppurative
Spleen	Red Pulp	Congestion, Acute
		Depletion, Lymphoid
Thymus	Cortex	Necrosis, Nos

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_006

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Bone marrow  
Kidney  
Liver  
Prostate  
Salivary gland  
Skin

Congestion, Acute  
Hyperplasia, Tubular Cell  
Mixed Hepato/Cholangio Carcinoma  
Inflammation, Acute Suppurative  
Atrophy, Focal  
Fibrosis, Diffuse  
Ulcer, Chronic  
Hematopoiesis  
Mixed Hepato/Cholangio Carcinoma, Metastatic

Spleen  
Unspecified

Red Pulp  
Multiple Organs Nos

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 2\_007

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 060.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

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**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Liver		Hematopoiesis
Lung		Alveolar/Bronchiolar Adenoma
Lymph node		Hemorrhage
	Mandibular Lymph Node	Mastocytosis
Spleen	Follicles	Atrophy, Diffuse
	Red Pulp	Hematopoiesis
Unspecified	Back	Sarcoma, Nos

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_008

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

**OBSERVATIONS**

Brain		Mineralization
Heart		Inflammation, Acute/Chronic
Kidney	Cortex	Nephropathy
Liver		Hepatocellular Adenoma
Lung		Congestion, Acute
		Hemorrhage
Lymph node		Congestion, Acute
		Hematopoiesis
Pancreas	Acinus	Focal Cellular Change
Prostate		Mineralization

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_009

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

**OBSERVATIONS**

Bone marrow		Hyperplasia, Erythroid
Kidney	Cortex	Nephropathy
Liver		Hematopoiesis
		Hepatocellular Carcinoma
Lung		Congestion, Acute
		Hemorrhage
		Hepatocellular Carcinoma, Metastatic
Skin	Epidermis	Acanthosis
	Dermis	Fibrosis, Diffuse
		Fibrosis, Focal
Spleen	Red Pulp	Hematopoiesis

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_010

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

**OBSERVATIONS**

Adrenal gland	Periadrenal Tissue	Hemorrhage
Heart	Ventricle	Mineralization
Liver	Hepatocytes	Atrophy, Diffuse
Lung		Hemorrhage
		Leukocytosis, Nos
Lymph node	Mandibular Lymph Node	Hemorrhage
Salivary gland		Atrophy, Focal
Testis	Tubule	Atrophy, Diffuse
		Hemorrhage
Unspecified		Inflammation, Acute/Chronic
	Multiple Organs Nos	Lymphoma, Nos-Malignant

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_011

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

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**OBSERVATIONS**

Brain	Mineralization
Liver	Hepatocellular Carcinoma

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_012

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Kidney	Cortex	Nephropathy
Liver		Hepatocellular Adenoma
Pancreas	Acinus	Atrophy, Focal

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_013

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

---

**OBSERVATIONS**

Adrenal gland		Hypertrophy, Focal
Kidney	Cortex	Nephropathy
Lung		Alveolar/Bronchiolar Adenoma
Pancreas	Acinus	Atrophy, Focal
Thyroid		Follicular-Cell Adenoma

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_014

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hypertrophy, Focal
Brain		Mineralization
Kidney	Cortex	Nephropathy
Pancreas	Acinus	Atrophy, Focal
Skin	Epidermis	Acanthosis
	Dermis	Fibrosis, Diffuse
		Fibrosis, Focal

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**PRIMARY CAUSE OF DEATH**

-

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_015

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

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**OBSERVATIONS**

Kidney	Cortex	Nephropathy
Liver		Hematopoiesis
		Hepatocellular Carcinoma
Lung		Congestion, Acute
Lymph node	Mesenteric Lymph Node	Hemorrhage
		Hyperplasia, Reticulum Cell
Salivary gland		Atrophy, Focal
Spleen	Red Pulp	Hematopoiesis

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_016

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Kidney	Cortex	Nephropathy
Lung		Histiocytosis
Spleen	Red Pulp	Hematopoiesis
	Follicles	Hyperplasia, Lymphoid
Stomach		Inflammation, Suppurative
		Ulcer, Acute
Unspecified	Multiple Organs Nos	Lymphoma, Histiocytic-Malignant Type

PRIMARY CAUSE OF DEATH

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_017

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

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**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Kidney	Tubule	Atrophy, Diffuse
Lung		Congestion, Acute
Pancreas	Acinus	Atrophy, Focal

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_018

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

**OBSERVATIONS**

Bone marrow		Congestion, Acute
Brain		Mineralization
Intestine Large	Colon	Parasitism
Liver		Necrosis, Coagulative
Lung		Congestion, Acute
Pancreas	Acinus	Atrophy, Focal
Pituitary gland		Congestion, Acute
Skin	Shaft	Pigmentation, Nos
Testis	Tubule	Atrophy, Diffuse

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_019

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

**OBSERVATIONS**

Bone marrow		Congestion, Acute
Heart		Inflammation, Acute/Chronic
Liver		Hepatocellular Adenoma
Lung		Congestion, Acute
Pancreas	Acinus	Atrophy, Focal
Prostate		Inflammation, Acute Suppurative
Skin	Sebaceous Gland	Hyperplasia, Focal
Spleen	Red Pulp	Hematopoiesis
Testis	Tubule	Degeneration, Nos

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_020

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

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**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Kidney	Tubule	Cytoplasmic Vacuolization
Penis		Inflammation, Acute Suppurative
Prostate		Inflammation, Acute Suppurative
Seminal vesicle		Dilatation, Nos
Skin		Inflammation, Acute/Chronic
Unspecified	Scrotum	Inflammation, Acute Suppurative
		Inflammation, Acute/Chronic

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_021

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Brain		Mineralization
Epididymis		Inflammation, Acute/Chronic
Liver		Hematopoiesis
Lymph node		Congestion, Acute
Prostate		Inflammation, Acute/Chronic
Seminal vesicle		Dilatation, Nos
Testis	Tubule	Mineralization

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_022

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Brain		Mineralization
Harderian gland	Harderian Gland	Adenoma, Nos
Lymph node	Mandibular Lymph Node	Hypoplasia, Lymphoid
Pancreas	Acinus	Atrophy, Focal
Skin		Inflammation, With Fibrosis
		Lymphocytic Inflammatory Infiltrate
		Ulcer, Chronic
Spleen	Red Pulp	Hematopoiesis
Unspecified	Chest	Fibrosarcoma

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_023

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Kidney	Cortex	Nephropathy
Liver		Hematopoiesis
Skin	Dermis	Fibrosis, Diffuse
		Inflammation, Acute/Chronic
	Dermis	Mineralization
Spleen	Red Pulp	Hematopoiesis
Unspecified	Back	Fibrosarcoma
	Multiple Organs Nos	Lymphoma, Histiocytic-Malignant Type

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_024

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

---

**OBSERVATIONS**

Kidney	Cortex	Nephropathy
Lymph node		Hyperplasia, Lymphoid
Pancreas	Acinus	Atrophy, Focal
	Acinus	Focal Cellular Change
Spleen		Hemangioma

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_025

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Liver	Hepatocellular Carcinoma
Lung	Congestion, Acute Hemorrhage
Skin	Abscess, Chronic
Thymus	Congestion, Acute

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_026

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Heart	Myocardium Nos	Degeneration, Nos
Kidney	Cortex	Nephropathy
Liver		Hepatocellular Carcinoma
Lung		Congestion, Acute
		Foreign Material, Nos
		Hepatocellular Carcinoma, Metastatic
Spleen	Red Pulp	Hematopoiesis

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_027

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 060.0 MG/KG

**DISP:** Moribund Sacrifice

**HISTO:**

**OBSERVATIONS**

Adrenal gland	Medulla	Hyperplasia, Focal
Blood		Leukocytosis, Neutrophilic
Bone marrow		Hyperplasia, Granulocytic
Intestine Large	Colon	Parasitism
Intestine Small	Intestinal Villus, Ileum	Atrophy, Diffuse
Kidney	Tubule	Atrophy, Diffuse
Lung		Leukocytosis, Nos
Lymph node	Mesenteric Lymph Node	Hematopoiesis
Skin		Inflammation, Acute/Chronic
Spleen	Red Pulp	Hematopoiesis
Unspecified	Back	Fibrosarcoma

**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_028

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Accidentally Killed

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

---

**OBSERVATIONS**

Bone marrow		Congestion, Acute
Intestine Small	Intestinal Villus, Ileum	Atrophy, Diffuse
Liver		Hepatocellular Carcinoma
Lung		Alveolar/Bronchiolar Adenoma
Pituitary gland	Anterior Pituitary	Cyst, Embryonal Duct
Unspecified	Mediastinum Nos	Foreign Body, Nos
	Mediastinum Nos	Inflammation, Acute Suppurative

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_029

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

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**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Brain		Mineralization
Liver		Hepatocellular Adenoma
Pituitary gland		Cyst, Nos
Skin	Sweat Gland	Dilatation, Nos
Stomach	Forestomach	Squamous Cell Carcinoma
Unspecified	Multiple Organs Nos	Hematopoiesis

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_030

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Bone marrow		Congestion, Acute
Brain		Mineralization
Kidney	Pelvis	Nephrosis, Hydro
Liver		Hepatocellular Carcinoma
Pancreas	Acinus	Atrophy, Focal

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_031

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Accidentally Killed

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

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Esophagus		Wound, Lacerated
Heart	Pericardium Nos	Inflammation, Chronic Suppurative
	Epicardium	Inflammation, Necro Granulomatous
Kidney	Tubule	Dilatation, Nos
		Pyelonephritis, Acute
Liver		Hematopoiesis
		Hepatocellular Carcinoma
		Inflammation, With Fibrosis
Lung	Pleura Nos	Inflammation, Pyogranulomatous
Prostate		Inflammation, Chronic Focal
Skeletal muscle	Intercostal Muscle	Inflammation, Necro Granulomatous
Spleen	Red Pulp	Hematopoiesis
Stomach	Cardiac Stomach	Acanthosis
	Cardiac Stomach	Hyperkeratosis
		Inflammation, Acute/Chronic
Unspecified	Mediastinum Nos	Inflammation, Pyogranulomatous
	Back	Sarcoma, Nos
Urinary bladder		Inflammation, Chronic Diffuse

PRIMARY CAUSE OF DEATH

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_032

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hypertrophy, Focal
Kidney	Cortex	Nephropathy
Pancreas	Acinus	Atrophy, Focal
Prostate		Inflammation, Acute Suppurative
Testis	Tubule	Mineralization

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_033

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Bone marrow  
Intestine Large  
Liver

Colon

Hyperplasia, Granulocytic  
Parasitism  
Congestion, Acute  
Hepatocellular Adenoma  
Inflammation, Interstitial  
Sarcoma, Nos

Lung  
Unspecified

Back

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_034

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

---

**OBSERVATIONS**

Brain		Mineralization
Kidney	Cortex	Nephropathy
Liver		Hematopoiesis
Pancreas	Acinus	Atrophy, Focal
Spleen	Follicles	Atrophy, Diffuse
	Red Pulp	Hematopoiesis
Unspecified	Multiple Organs Nos	Lymphoma, Histiocytic-Malignant Type

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_035

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 060.0 MG/KG

**DISP:** Terminal Sacrifice

**HISTO:**

**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Heart	Ventricle	Histiocytosis
Liver		Hepatocellular Carcinoma
		Necrosis, Focal
Lung		Congestion, Acute
Lymph node	Mesenteric Lymph Node	Hemorrhage
Pancreas	Acinus	Atrophy, Focal
Salivary gland		Atrophy, Focal
Spleen		Hemangiosarcoma, Metastatic
	Red Pulp	Hematopoiesis
Unspecified	Lower Extremity Nos	Hemangiosarcoma

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 2\_036

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

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**OBSERVATIONS**

Eye	Cornea	Inflammation, Chronic Suppurative
Harderian gland	Hardarian Gland	Adenoma, Nos
Lung		Hemorrhage
Pancreas	Acinus	Atrophy, Focal
	Acinus	Focal Cellular Change
Skin	Dermis	Fibrosis, Diffuse
Spleen	Red Pulp	Hematopoiesis
Unspecified	Back	Fibroma
	Back	Fibrosarcoma

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_037

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hypertrophy, Focal
	Cortex Nos	Lymphocytic Inflammatory Infiltrate
Epididymis		Lymphocytic Inflammatory Infiltrate
Liver		Hemorrhage
		Necrosis, Focal
Lung	Subpleural Tissue	Lymphocytic Inflammatory Infiltrate

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_038

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

---

**OBSERVATIONS**

Kidney	Cortex	Nephropathy
Lung		Inflammation, Interstitial
Pancreas	Acinus	Atrophy, Focal
Pituitary gland		Cyst, Nos
Testis	Tubule	Mineralization

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_039

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

---

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Brain		Mineralization
Kidney		Mineralization
Lung		Alveolar/Bronchiolar Adenoma
		Hyperplasia, Focal
Skin	Dermis	Inflammation, With Fibrosis
Unspecified	Back	Fibroma

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_040

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

---

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Brain	Meninges	Inflammation, Acute/Chronic
Kidney	Cortex	Nephropathy
Lung		Alveolar/Bronchiolar Adenoma Alveolar/Bronchiolar Carcinoma
Lymph node		Hemorrhage
Pancreas	Acinus	Hemorrhage
Testis	Tubule	Atrophy, Focal Mineralization

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_041

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

---

**OBSERVATIONS**

Liver	Hepatocellular Carcinoma
Lung	Atelectasis
	Congestion, Acute
	Hemorrhage
Lymph node	Hemorrhage
Skin	Abscess, Nos
Testis	Dysplasia, Nos

---

**PRIMARY CAUSE OF DEATH** -

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_042

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

---

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Pancreas	Acinus	Atrophy, Focal
Unspecified	Back	Fibrosarcoma

---

**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_043

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Brain		Mineralization
Intestine Small	Mucosa	Atrophy, Diffuse
Skin		Inflammation, With Fibrosis
		Ulcer, Chronic
Unspecified	Multiple Organs Nos	Lymphoma, Histiocytic-Malignant Type

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_044

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

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**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Kidney	Cortex	Nephropathy
Skin	Hair Follicle	Atrophy, Focal
		Fibrosis, Diffuse
	Epidermis	Ulcer, Chronic
Testis	Tubule	Atrophy, Diffuse

---

**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_045

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Brain		Mineralization
Liver		Hepatocellular Carcinoma
Lung		Hyperplasia, Alveolar Epithelium
Spleen	Follicles	Atrophy, Diffuse
	Red Pulp	Hematopoiesis
Unspecified	Back	Fibroma
	Back	Sarcoma, Nos

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 2\_046

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

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**OBSERVATIONS**

Lung	Bronchiole	Foreign Body, Vegetable
Pancreas	Acinus	Atrophy, Focal

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_047

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hypertrophy, Focal
Bone marrow		Hyperplasia, Diffuse
Kidney	Cortex	Nephropathy
Liver		Hepatocellular Adenoma
		Inflammation, With Fibrosis
Lung		Congestion, Acute
Pancreas	Acinus	Atrophy, Focal
Salivary gland		Atrophy, Focal
Unspecified	Back	Fibrosarcoma

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_048

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hypertrophy, Focal
Bone marrow		Congestion, Acute
Brain		Mineralization
Harderian gland	Hardarian Gland	Adenocarcinoma, Nos
Lung		Histiocytosis
Lymph node	Mesenteric Lymph Node	Hemorrhage
	Mesenteric Lymph Node	Hyperplasia, Lymphoid
Stomach	Fundal Gland	Adenomatous Polyp, Nos
Testis	Tubule	Mineralization
Thyroid	Follicle	Hyperplasia, Cystic
Unspecified	Multiple Organs Nos	Lymphoma, Mixed-Malignant Type

PRIMARY CAUSE OF DEATH

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_049

**TRT#:** 2  
**DOSE:** 060.0 MG/KG

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

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

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Brain		Mineralization
Intestine Small	Mucosa	Atrophy, Focal
Kidney	Cortex	Nephropathy
Lung	Alveoli	Inflammation, Interstitial
Lymph node		Hemorrhage
Skin	Dermis	Inflammation, With Fibrosis
	Epidermis	Ulcer, Chronic
Spleen	Red Pulp	Hematopoiesis

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 2\_050

**TRT#:** 2

**SEX:** Male

**DAY ON TEST:**

**DOSE:** 060.0 MG/KG

**DISP:** Natural Death

**HISTO:**

**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Intestine Large	Colon	Parasitism
Kidney	Pelvis	Nephrosis, Hydro
		Pyelonephritis, Chronic
Liver		Hepatocellular Carcinoma
Lung		Congestion, Acute
		Inflammation, Acute/Chronic
Prostate		Inflammation, Acute/Chronic
Spleen	Red Pulp	Hematopoiesis
	Follicles	Hypoplasia, Lymphoid
Ureter		Inflammation, Chronic Suppurative

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_001

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

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

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

---

**OBSERVATIONS**

Kidney

Skin

Spleen

Dermis

Follicles

Nephropathy

Fibrosis

Hyperplasia, Diffuse

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_002

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

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

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

---

**OBSERVATIONS**

Kidney  
Liver

Cortex  
Hepatocytes

Nephropathy  
Focal Cellular Change  
Hepatocellular Adenoma  
Dilatation, Nos

Seminal vesicle

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_003

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

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Brain		Mineralization
Liver		Angiectasis
		Hepatocellular Carcinoma
		Necrosis, Coagulative
Prostate		Inflammation, Acute Suppurative
		Thrombus, Organized
Spleen	Red Pulp	Hematopoiesis
Unspecified	Multiple Organs Nos	Congestion, Acute

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_004

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

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

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

**OBSERVATIONS**

Epididymis		Inflammation, Chronic Focal
Heart	Epicardium	Hemorrhage
Kidney	Cortex	Mineralization
	Cortex	Nephropathy
Liver		Hepatocellular Adenoma
		Hepatocellular Carcinoma
Lung		Alveolar/Bronchiolar Carcinoma
	Mediastinal Pleura	Hemorrhage
		Hepatocellular Carcinoma, Metastatic
Lymph node	Tracheal Lymph Node	Hemorrhage
	Mandibular Lymph Node	Hyperplasia, Reticulum Cell
Salivary gland		Atrophy, Diffuse
Spleen	Red Pulp	Hematopoiesis

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_005

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

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

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

**OBSERVATIONS**

Blood vessel	Renal Vein	Inflammation, With Fibrosis
Brain	Meninges	Inflammation, Acute/Chronic Mineralization
Kidney	Cortex	Infarct, Focal
	Pelvis	Inflammation, Chronic Focal
	Cortex	Nephropathy
Liver		Hepatocellular Carcinoma
Lung		Hepatocellular Carcinoma, Metastatic
Skin	Dermis	Fibrosis, Diffuse
	Dermis	Fibrosis, Focal
Spleen	Red Pulp	Hematopoiesis
Unspecified	Back	Fibroma

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_006

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

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

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

**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Brain		Mineralization
Harderian gland	Hardarian Gland	Adenoma, Nos
Liver		Hematopoiesis
Lymph node		Hematopoiesis
	Mesenteric Lymph Node	Hemorrhage
		Hemorrhage
	Mesenteric Lymph Node	Histiocytosis
Pancreas	Acinus	Atrophy, Focal
		Cyst, Multiple
Prostate		Inflammation, Suppurative
Spleen	Follicles	Atrophy, Diffuse
	Red Pulp	Hematopoiesis
Unspecified	Back	Fibrosarcoma

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_007

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

**SEX:** Male  
**DISP:** Natural Death

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

**OBSERVATIONS**

Bone	Maxilla	Sarcoma, Nos
Bone marrow		Congestion, Nos
Liver	Bile Duct	Dilatation, Nos
	Bile Duct	Hepatocellular Adenoma
		Hyperplasia, Cystic
Lung		Necrosis, Focal
Unspecified	Multiple Organs Nos	Alveolar/Bronchiolar Carcinoma
		Alveolar/Bronchiolar Carcinoma, Metastatic

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 3\_008

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

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

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

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**OBSERVATIONS**

Kidney  
Preputial gland

Cortex

Nephropathy  
Dilatation, Nos  
Inflammation, Acute/Chronic  
Dilatation, Nos

Seminal vesicle

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_009

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

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

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

---

**OBSERVATIONS**

Kidney	Cortex	Nephropathy
Pancreas	Acinus	Atrophy, Focal
Prostate		Hemorrhage
Skin		Fibrosarcoma

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_010

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

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

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

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**OBSERVATIONS**

Kidney

Cortex  
Cortex

Cyst, Nos  
Nephropathy  
Hepatocellular Carcinoma  
Hematopoiesis

Liver

Spleen

Red Pulp

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_011

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

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

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

**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Intestine Large	Cecum, Colon	Parasitism
	Colon	Parasitism
Liver		Hepatocellular Carcinoma
		Necrosis, Coagulative
Lung		Fibrosarcoma, Metastatic
Spleen	Follicles	Atrophy, Diffuse
	Red Pulp	Hematopoiesis
Unspecified		Fibrosarcoma

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_012

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

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Liver		Necrosis, Coagulative
Lung		Inflammation, Interstitial
Spleen	Red Pulp	Hematopoiesis
	Follicles	Hypoplasia, Lymphoid
Unspecified	Back	Sarcoma, Nos

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_013

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

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

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

**OBSERVATIONS**

Adrenal gland		Hyperplasia, Focal
Kidney	Cortex	Nephropathy
Liver		Hepatocellular Adenoma
Lung		Alveolar/Bronchiolar Adenoma
Lymph node	Mesenteric Lymph Node	Hemorrhage
	Mesenteric Lymph Node	Hyperplasia, Reticulum Cell
Pancreas	Acinus	Atrophy, Focal
Skin	Dermis	Fibrosis, Diffuse
	Sebaceous Gland	Hyperplasia, Focal
Unspecified	Back	Fibroma

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_014

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

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

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

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**OBSERVATIONS**

Adrenal gland  
Brain  
Liver

White Matter

Hyperplasia, Focal  
Mineralization  
Hematopoiesis

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_015

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

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

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

---

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Liver		Hematopoiesis
Salivary gland		Atrophy, Diffuse
Seminal vesicle		Inflammation, Chronic Focal
Spleen	Follicles	Atrophy, Diffuse
	Red Pulp	Hematopoiesis
Unspecified		Fibrosarcoma

---

**PRIMARY CAUSE OF DEATH** -

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_016

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

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

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

---

**OBSERVATIONS**

Bone marrow  
Kidney  
Skin  
  
Unspecified

Cortex  
Lower Leg  
Dermis  
Multiple Organs Nos

Hyperplasia, Diffuse  
Nephropathy  
Abscess, Chronic  
Fibrosis, Focal  
Lymphoma, Undifferentiated-Malignant Type

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_017

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

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

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

**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Brain		Mineralization
Epididymis		Inflammation, Acute/Chronic
Kidney		Pyelonephritis, Acute
Liver	Hepatic Sinusoid	Hematopoiesis
Peritoneum	Peritoneal Cavity Nos	Abscess, Chronic
Prostate		Adenoma, Nos
Spleen	Follicles	Atrophy, Diffuse
	Red Pulp	Hematopoiesis
Unspecified	Leg	Fibrosarcoma

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_018

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

**SEX:** Male  
**DISP:** Natural Death

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

**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Epididymis		Hyperplasia, Focal
Intestine Small	Ileum	Inflammation, Acute Necrotizing
Kidney	Cortex	Nephropathy
Liver		Hematopoiesis
Lung		Congestion, Acute
Pancreas	Acinus	Adenocarcinoma, Nos
		Inflammation, Suppurative
Spleen	Follicles	Atrophy, Diffuse
	Red Pulp	Hematopoiesis

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_019

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

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

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

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**OBSERVATIONS**

Kidney  
Seminal vesicle

Cortex

Nephropathy  
Dilatation, Nos  
Hemorrhage  
Hyperplasia, Focal  
Inflammation, With Fibrosis

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_020

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

**SEX:** Male  
**DISP:** Natural Death

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

**OBSERVATIONS**

Intestine Large  
Liver  
Lung  
Lymph node  
Pituitary gland  
Spleen  
Unspecified  
Urinary bladder

Colon  
  
Mesenteric Lymph Node  
  
Red Pulp  
Multiple Organs Nos  
Cavity

Parasitism  
Hepatocellular Carcinoma  
Hepatocellular Carcinoma, Metastatic  
Hemorrhage  
Cyst, Nos  
Hematopoiesis  
Congestion, Acute  
Hemorrhage

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_021

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

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Kidney

Tubule

Dilatation, Nos  
Mineralization

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_022

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

**SEX:** Male  
**DISP:** Accidentally Killed

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

---

**OBSERVATIONS**

Brain		Mineralization
Esophagus		Wound, Lacerated
Lung	Pleural Cavity Nos	Foreign Body, Nos
	Pleural Cavity Nos	Inflammation, Acute Suppurative
Unspecified	Mediastinum Nos	Foreign Body, Nos
	Mediastinum Nos	Inflammation, Acute Suppurative

---

**PRIMARY CAUSE OF DEATH**

-

---

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_023

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

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Lung		Alveolar/Bronchiolar Carcinoma
Pancreas	Acinus	Necrosis, Focal
Skin	Dermis	Inflammation, Chronic Diffuse
	Epidermis	Ulcer, Chronic
Unspecified	Multiple Organs Nos	Lymphoma, Histiocytic-Malignant Type

---

**PRIMARY CAUSE OF DEATH**

-

---

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_024

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

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

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

---

**OBSERVATIONS**

Bone marrow		Hyperplasia, Diffuse
Brain		Mineralization
Harderian gland	Harderian Gland	Adenoma, Nos
Kidney	Cortex	Nephropathy
Seminal vesicle		Dilatation, Nos
Spleen	Red Pulp	Hematopoiesis
Thyroid		Hyperplasia, Follicular Cell
Unspecified	Hip	Fibrosarcoma

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_025

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

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

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

**OBSERVATIONS**

Brain		Mineralization
Kidney	Cortex	Nephropathy
Liver		Hepatocellular Carcinoma
Lung		Hepatocellular Carcinoma, Metastatic
Spleen	Follicles	Atrophy, Diffuse
	Red Pulp	Hematopoiesis
Thyroid	Follicle	Atrophy, Focal
		Hyperplasia, Follicular Cell
Unspecified	Back	Fibrosarcoma

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_026

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

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

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

---

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Kidney		Pyelonephritis, Acute
Prostate	Prostatic Urethra	Necrosis, Nos
Spleen	Red Pulp	Hematopoiesis
Urinary bladder		Inflammation, Acute Diffuse
	Mucosa	Necrosis, Diffuse

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_027

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

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

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

---

**OBSERVATIONS**

Harderian gland  
Kidney  
Pancreas

Hardarian Gland  
Cortex  
Acinus

Adenoma, Nos  
Nephropathy  
Atrophy, Focal

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_028

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

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

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

---

**OBSERVATIONS**

Kidney  
Preputial gland  
Seminal vesicle

Cortex

Nephropathy  
Cyst, Nos  
Dilatation, Nos  
Hyperplasia, Focal

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_029

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

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

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

---

**OBSERVATIONS**

Brain		Mineralization
Epididymis		Leiomyoma
Kidney	Cortex	Nephropathy
Liver		Hepatocellular Carcinoma
Lymph node	Mesenteric Lymph Node	Hematopoiesis
	Mesenteric Lymph Node	Hemorrhage

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_030

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

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Kidney Tubule Cytoplasmic Vacuolization

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_031

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

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

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

---

**OBSERVATIONS**

Bone marrow

Hypoplasia, Nos  
Necrosis, Focal

Brain

Mineralization

Kidney

Cortex

Nephropathy

Lung

Hemorrhage

Unspecified

Axilla

Fibrosarcoma

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_032

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

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Bone marrow  
Intestine Large  
Spleen  
Unspecified

Colon

Multiple Organs Nos

Congestion, Acute  
Parasitism  
Depletion, Lymphoid  
Lymphoma, Mixed-Malignant Type

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_033

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

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

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

---

**OBSERVATIONS**

Kidney	Cortex	Nephropathy
Lung		Congestion, Acute
Spleen	Follicles	Hyperplasia, Lymphoid
Testis		Interstitial-Cell Tumor

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_034

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

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

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

---

**OBSERVATIONS**

Kidney	Cortex	Nephropathy
Lung		Alveolar/Bronchiolar Adenoma
Pancreas		Hemorrhage
		Hemorrhage, Chronic
		Inflammation, Chronic Focal
Spleen	Follicles	Hyperplasia, Lymphoid

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_035

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

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

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

---

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Epididymis		Inflammation, Acute/Chronic
Lung		Fibrosarcoma, Metastatic
Skin		Abscess, Nos
Spleen	Red Pulp	Hematopoiesis
Unspecified	Shoulder	Fibrosarcoma

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_036

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

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

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

**OBSERVATIONS**

Bone	Joint Of Lower Extremity	Abscess, Chronic
Bone marrow		Hyperplasia, Diffuse
Brain		Mineralization
Heart	Atrium	Thrombosis, Nos
Kidney	Cortex	Nephropathy
Liver		Hepatocellular Carcinoma
Lung		Alveolar/Bronchiolar Adenoma
		Alveolar/Bronchiolar Carcinoma
Lymph node	Mesenteric Lymph Node	Hemorrhage
Skin		Abscess, Nos
	Epidermis	Acanthosis
	Dermis	Fibrosis, Focal
Spleen	Red Pulp	Hematopoiesis

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_037

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

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Bone marrow  
Liver  
Lung  
Penis  
Skin

Prepuce Nos

Congestion, Acute  
Hepatocellular Carcinoma  
Congestion, Acute  
Cyst, Epidermal Inclusion  
Inflammation, Acute/Chronic

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**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_038

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

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Lung		Alveolar/Bronchiolar Adenoma
Seminal vesicle		Dilatation, Nos
Skin	Sebaceous Gland	Hyperplasia, Adenomatous
	Sebaceous Gland	Hyperplasia, Focal
		Inflammation, Acute/Chronic
Thymus	Lymphocytes	Degeneration, Nos

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_039

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

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

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

---

**OBSERVATIONS**

Adrenal gland  
Bone marrow  
Kidney  
Stomach

Cortex Nos  
  
Cortex

Hypertrophy, Focal  
Congestion, Acute  
Nephropathy  
Inflammation, Pyogranulomatous

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_040

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

**SEX:** Male  
**DISP:** Natural Death

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

---

**OBSERVATIONS**

Brain		Mineralization
Kidney	Cortex	Mineralization
Liver		Hepatocellular Carcinoma
Penis	Prepuce Nos	Inflammation, With Fibrosis
Seminal vesicle		Dilatation, Nos

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_041

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

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

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

**OBSERVATIONS**

Brain		Mineralization
Lung		Alveolar/Bronchiolar Adenoma
		Atelectasis
		Congestion, Acute
		Hemorrhage
Lymph node	Mandibular Lymph Node	Hyperplasia, Reticulum Cell
Skin	Dermis	Fibrosis, Diffuse
		Inflammation, Acute/Chronic
Spleen	Red Pulp	Hematopoiesis
Stomach		Acanthosis
Testis	Tubule	Degeneration, Nos
	Tubule	Mineralization
Thyroid		Hyperplasia, Follicular Cell

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_042

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

**SEX:** Male  
**DISP:** Accidentally Killed

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

**OBSERVATIONS**

Brain		Mineralization
Esophagus		Wound, Lacerated
Heart	Epicardium	Inflammation, Acute Suppurative
Lung	Pleural Cavity Nos	Foreign Body, Nos
	Pleural Cavity Nos	Hemorrhage
	Pleural Cavity Nos	Inflammation, Acute Suppurative
Trachea		Inflammation, Acute Focal
Unspecified	Mediastinum Nos	Foreign Body, Nos
	Mediastinum Nos	Inflammation, Acute Suppurative
	Thorax	Neurofibrosarcoma

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_043

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

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

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

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**OBSERVATIONS**

Lung		Alveolar/Bronchiolar Adenoma
		Hemorrhage
Parathyroid gland		Hyperplasia, Diffuse
Thymus		Hemorrhage
Trachea	Gland	Dysplasia, Nos

---

**PRIMARY CAUSE OF DEATH**

-

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_044

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

**SEX:** Male  
**DISP:** Accidentally Killed

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

**OBSERVATIONS**

Bone marrow		Hyperplasia, Granulocytic
Brain		Mineralization
Esophagus	Lumen	Hemorrhage
	Periesophageal Tissue	Inflammation, Active Chronic
Heart	Pericardial Cavity	Hemorrhage
	Pericardial Cavity	Inflammation, Chronic Suppurative
Lung		Aspiration, Foreign Body
	Alveoli	Hemorrhage
Thymus		Inflammation, Active Chronic
Unspecified	Axilla	Foreign Body, Nos
	Axilla	Inflammation, Chronic Suppurative

**PRIMARY CAUSE OF DEATH**

-

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

**ANIMAL ID:** 3\_045

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

**SEX:** Male  
**DISP:** Natural Death

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

**OBSERVATIONS**

Adrenal gland	Medulla	Pheochromocytoma
Liver		Hepatocellular Carcinoma
Lung		Hepatocellular Carcinoma, Metastatic
Pituitary gland		Cyst, Nos
Salivary gland		Atrophy, Diffuse
Spleen	Follicles	Atrophy, Diffuse
	Red Pulp	Hematopoiesis
Stomach	Fundal Gland	Metaplasia, Squamous
Unspecified	Back	Sarcoma, Nos

PRIMARY CAUSE OF DEATH

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 3\_046

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

**SEX:** Male  
**DISP:** Natural Death

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

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**OBSERVATIONS**

Liver		Hepatocellular Carcinoma
Lung	Alveoli	Histiocytosis
Parathyroid gland		Cyst, Thyroglossal Duct
Spleen	Red Pulp	Hematopoiesis
Stomach	Mucosa	Ulcer, Acute

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**PRIMARY CAUSE OF DEATH**

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**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 3\_047

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

**SEX:** Male  
**DISP:** Natural Death

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

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**OBSERVATIONS**

Bone marrow  
Liver  
Lung

Congestion, Acute  
Hepatocellular Carcinoma  
Congestion, Acute  
Hepatocellular Carcinoma, Metastatic

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

---

**ANIMAL ID:** 3\_048

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

**SEX:** Male  
**DISP:** Natural Death

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

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**OBSERVATIONS**

Brain		Hemorrhage
Lung		Congestion, Acute
Lymph node	Mandibular Lymph Node	Hemorrhage
	Mesenteric Lymph Node	Hemorrhage
Unspecified	Multiple Organs Nos	Lymphoma, Histiocytic-Malignant Type

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 3\_049

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

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

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

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**OBSERVATIONS**

Heart		Hemangioma
Kidney	Cortex	Cyst, Nos
	Cortex	Nephropathy
Preputial gland		Inflammation, Acute
Skin	Dermis	Metaplasia, Osseous

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**PRIMARY CAUSE OF DEATH**

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C54842  
**Test Type:** Long-Term  
**Route:** Gavage  
**Species/Strain:** Mouse/B6C3F1

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**  
**Test Compound:** Malonaldehyde, sodium salt  
**CAS Number:** 24382-04-5

**Date Report Requested:** 10/26/2014  
**Time Report Requested:** 10:47:31  
**First Dose M/F:** NA / NA  
**Lab:** NA

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**ANIMAL ID:** 3\_050

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

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

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

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**OBSERVATIONS**

Adrenal gland	Cortex Nos	Hypertrophy, Focal
Bone marrow		Hypoplasia, Nos
Kidney	Cortex	Infarct, Healed
Lung		Alveolar/Bronchiolar Adenoma
		Alveolar/Bronchiolar Carcinoma
Pancreas	Acinus	Atrophy, Focal
Skin	Dermis	Fibrosis, Focal

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**PRIMARY CAUSE OF DEATH**

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