

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

**C Number:** C50442

**Cage Range:** All

**Date Range:** All

**Reasons For Removal:** All

**Removal Date Range:** All

**Treatment Groups:** All

**Study Gender:** Female

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_501

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye		Retinopathy
Intestine Small	Mesentery Nos	Sarcoma, Nos
Pituitary gland		Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_502

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Liver

Inflammation, Acute/Chronic

Mammary gland

Fibroadenoma

Mammary Lobule

Hyperplasia, Nos

Thyroid

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_503

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Hemorrhage

Liver

Retinopathy

Spleen

Leukocytosis, Nos

Thyroid

Congestion, Nos

C-Cell Adenoma

Cyst, Thyroglossal Duct

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_504

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Heart

Intestine Small

Pituitary gland

Thyroid

Myocardium Nos

Mesentery Nos

Retinopathy

Inflammation, Chronic

Necrosis, Fat

Adenoma, Nos

Cyst, Thyroglossal Duct

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_505

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye		Retinopathy
Lung	Alveoli	Histiocytosis
Mammary gland		Fibroadenoma
Pituitary gland		Cyst, Nos

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_506

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Uterus

Angiectasis

Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_507

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Uterus

Endometrium

Endometrial Stromal Polyp

Hyperplasia, Cystic

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_508

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Heart

Myocardium Nos

Retinopathy

Inflammation, Chronic

Periarteritis

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_509

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Heart

Myocardium Nos

Inflammation, Chronic

Spleen

Hematopoiesis

Thyroid

C-Cell Carcinoma

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_510

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Inflammation, Chronic
Kidney		Inflammation, Chronic
Mammary gland		Cystic Ducts
		Fibroadenoma
Pituitary gland		Adenoma, Nos
Thyroid		Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_511

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Eye

Liver

Thyroid

Unspecified

Pelvis

Angiectasis

Retinopathy

Inflammation, Acute/Chronic

C-Cell Adenoma

Hyperplasia, C Cell

Inflammation, Granulomatous

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_512

**TRT#:** 1

**DOSE:** 600 PPM

**SEX:** Female

**DISP:** Natural Death

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Lung

Spleen

Pheochromocytoma

Congestion, Nos

Hemosiderosis

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_513

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Clitoral gland

Carcinoma, Nos

Eye

Retinopathy

Heart

Myocardium Nos

Inflammation, Chronic

Intestine Small

Mesentery Nos

Necrosis, Fat

Liver

Inflammation, Acute/Chronic

Mammary gland

Cystic Ducts

Fibroadenoma

Pituitary gland

Adenoma, Nos

Skin

Tail

Cyst, Epidermal Inclusion

Thyroid

C-Cell Adenoma

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_514

**TRT#:** 1

**DOSE:** 600 PPM

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Eye

Thyroid

Retinopathy

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_515

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Mammary gland

Fibroadenoma

Pituitary gland

Adenoma, Nos

Thyroid

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_516

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Eye

Heart

Liver

Mammary gland

Pituitary gland

Thyroid

Uterus

Myocardium Nos

Adenoma, Nos

Retinopathy

Inflammation, Chronic

Inflammation, Chronic Focal

Fibroadenoma

Adenoma, Nos

C-Cell Carcinoma

Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_517

**TRT#:** 1

**DOSE:** 600 PPM

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Eye	Retinopathy
Mammary gland	Cystic Ducts
Pituitary gland	Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_518

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Pituitary gland

Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_519

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Heart

Myocardium Nos

Inflammation, Chronic

Thyroid

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_520

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Liver

Leukocytosis, Nos

Thyroid

Hyperplasia, C Cell

Uterus

Endometrium

Papillary Adenocarcinoma

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_521

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Eye

Skin

Eyelid Nos

Cortical Adenoma

Retinopathy

Inflammation, Pyogranulomatous

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_522

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Heart

Pituitary gland

Thyroid

Myocardium Nos

Retinopathy

Inflammation, Chronic

Adenoma, Nos

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_523

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Liver

Inflammation, Acute/Chronic

Pituitary gland

Adenoma, Nos

Thyroid

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_524

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Heart

Myocardium Nos

Inflammation, Chronic

Skin

Face

Inflammation, Chronic Focal

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_525

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Intestine Small

Kidney

Liver

Mammary gland

Pituitary gland

Mesentery Nos

Retinopathy

Necrosis, Fat

Inflammation, Chronic

Inflammation, Acute/Chronic

Cystic Ducts

Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:58

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

**Lab:** NA

---

**ANIMAL ID:** 1\_526

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Intestine Small

Ovary

Thyroid

Peyers Patch

Retinopathy

Hyperplasia, Lymphoid

Cystic Follicles

Cyst, Thyroglossal Duct

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_527

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland  
Clitoral gland  
Intestine Large  
Kidney  
Liver

Colon

Mammary gland  
Pituitary gland  
Unspecified  
Uterus

Multiple Organs Nos

Pheochromocytoma  
Carcinoma, Nos  
Nematodiasis  
Inflammation, Chronic  
Atrophy, Nos  
Thrombosis, Nos  
Cystic Ducts  
Adenoma, Nos  
Leukemia, Undifferentiated  
Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_528

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Pituitary gland

Angiectasis

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_529

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Eye

Retinopathy

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_530

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Inflammation, Chronic
Pituitary gland		Adenoma, Nos
Thyroid		Cystic Follicles
Uterus		Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_531

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Bone marrow  
Clitoral gland  
Eye  
Kidney  
Pituitary gland  
Spleen  
Thyroid

Hyperplasia, Reticulum Cell  
Carcinoma, Nos  
Retinopathy  
Inflammation, Interstitial  
Adenoma, Nos  
Hematopoiesis  
Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_532

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Mammary gland

Cystic Ducts

Pancreas

Hyperplasia, Cystic

Pituitary gland

Atrophy, Nos

Thyroid

Adenoma, Nos

Uterus

Endometrium

C-Cell Adenoma

Hyperplasia, Cystic

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_533

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Heart

Liver

Myocardium Nos

Pheochromocytoma

Inflammation, Chronic

Leukocytosis, Nos

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_534

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Thyroid

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_535

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Intestine Small

Mesentery Nos

Necrosis, Fat

Pituitary gland

Adenoma, Nos

Skin

Dermis

Fibrosis, Focal

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_536

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart

Myocardium Nos

Inflammation, Chronic

Pituitary gland

Carcinoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_537

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Mammary gland

Thyroid

Uterus

Fibroadenoma

Hyperplasia, C Cell

Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_538

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Mammary gland

Pituitary gland

Unspecified

Multiple Organs Nos

Cystic Ducts

Hyperplasia, Nos

Leukemia, Undifferentiated

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_539

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart  
Thyroid

Myocardium Nos

Inflammation, Chronic  
Cyst, Thyroglossal Duct  
Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_540

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Mammary gland

Pituitary gland

Thyroid

Cystic Ducts

Adenoma, Nos

C-Cell Adenoma

Cyst, Thyroglossal Duct

Hyperplasia, C Cell

Hyperplasia, Cystic

Uterus

Endometrium

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_541

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Heart

Intestine Small

Thyroid

Myocardium Nos

Peyers Patch

Retinopathy

Inflammation, Chronic

Hyperplasia, Lymphoid

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_542

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart

Myocardium Nos

Inflammation, Chronic

Thyroid

C-Cell Adenoma

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_543

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Inflammation, Chronic
Unspecified	Multiple Organs Nos	Leukemia, Undifferentiated

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_544

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Spleen

Thyroid

Carcinoma, Nos

Hematopoiesis

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_545

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Eye

Retinopathy

Mammary gland

Cystic Ducts

Pituitary gland

Carcinoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_546

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Heart

Mammary gland

Salivary gland

Myocardium Nos

Retinopathy

Inflammation, Chronic

Cystic Ducts

Hyperplasia, Cystic

Cystic Ducts

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_547

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Liver

Inflammation, Acute/Chronic

Mammary gland

Hyperplasia, Cystic

Pituitary gland

Adenoma, Nos

Thyroid

C-Cell Carcinoma

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_548

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye		Retinopathy
Heart	Myocardium Nos	Inflammation, Chronic
Mammary gland		Cystic Ducts
Preputial gland		Adenoma, Nos
Thyroid		Follicular-Cell Adenoma
Unspecified	Multiple Organs Nos	Leukemia, Undifferentiated
Uterus		Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_549

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Heart

Mammary gland

Pituitary gland

Myocardium Nos

Retinopathy

Inflammation, Chronic

Cystic Ducts

Fibroadenoma

Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 1\_550

**TRT#:** 1

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 600 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Heart

Mammary gland

Thyroid

Myocardium Nos

Retinopathy

Inflammation, Chronic

Cystic Ducts

Follicular-Cell Adenoma

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_501

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Eye

Heart

Liver

Pancreas

Thyroid

Myocardium Nos

Angiectasis

Retinopathy

Inflammation, Chronic

Cytoplasmic Vacuolization

Atrophy, Nos

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_502

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Bone marrow

Clitoral gland

Eye

Heart

Pancreas

Thyroid

Uterus

Myocardium Nos

Acinus

Endometrium

Hyperplasia, Reticulum Cell

Cystic Ducts

Retinopathy

Inflammation, Chronic

Atrophy, Focal

C-Cell Adenoma

Hyperplasia, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_503

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Cystic Ducts

Eye

Hyperplasia, Nos

Heart

Myocardium Nos

Retinopathy

Mammary gland

Inflammation, Chronic

Thyroid

Fibroadenoma

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_504

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Heart

Thyroid

Myocardium Nos

Retinopathy

Inflammation, Chronic

Cyst, Thyroglossal Duct

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_505

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Heart

Myocardium Nos

Inflammation, Chronic

Intestine Small

Mesentery Nos

Steatitis

Pituitary gland

Adenoma, Nos

Thyroid

C-Cell Adenoma

Uterus

Endometrium

Hyperplasia, Cystic

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_506

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Natural Death

**HISTO:**

---

**OBSERVATIONS**

Intestine Small  
Mammary gland

Mesentery Nos

Necrosis, Fat  
Adenocarcinoma, Nos  
Cystic Ducts  
Hyperplasia, Cystic

Pituitary gland  
Unspecified

Multiple Organs Nos

Adenoma, Nos  
Leukemia, Undifferentiated

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_507

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Heart

Intestine Small

Mammary gland

Pituitary gland

Thyroid

Myocardium Nos

Mesentery Nos

Retinopathy

Inflammation, Chronic

Steatitis

Cystic Ducts

Fibroadenoma

Adenoma, Nos

Cyst, Follicular Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_508

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Intestine Small

Mammary gland

Mesentery Nos

Retinopathy

Steatitis

Fibroadenoma

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_509

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Hemorrhage

Thyroid

Retinopathy

Uterus

C-Cell Adenoma

Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_510

**TRT#:** 2

**DOSE:** 300 PPM

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland  
Eye  
Liver  
Mammary gland  
  
Uterus

Adenoma, Nos  
Retinopathy  
Focal Cellular Change  
Cystic Ducts  
Fibroadenoma  
Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_511

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Intestine Small

Peyers Patch

Hyperplasia, Lymphoid

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_512

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Eye

Heart

Myocardium Nos

Carcinoma, Nos

Retinopathy

Inflammation, Chronic

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_513

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Eye

Heart

Liver

Mammary gland

Pancreas

Pituitary gland

Unspecified

Myocardium Nos

Islets

Multiple Organs Nos

Cytoplasmic Vacuolization

Retinopathy

Inflammation, Chronic

Cytoplasmic Vacuolization

Cystic Ducts

Islet-Cell Adenoma

Adenoma, Nos

Lymphoma, Histiocytic-Malignant Type

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_514

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye  
Pituitary gland

Retinopathy  
Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_515

**TRT#:** 2

**DOSE:** 300 PPM

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Eye  
Pituitary gland  
Thyroid

Retinopathy  
Adenoma, Nos  
Cyst, Thyroglossal Duct

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_516

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye		Retinopathy
Heart	Myocardium Nos	Inflammation, Chronic
Intestine Small	Mesentery Nos	Necrosis, Fat
Mammary gland		Cystic Ducts
Pituitary gland		Adenoma, Nos
Thyroid		Cyst, Thyroglossal Duct
Uterus	Endometrium	Hyperplasia, Cystic

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_517

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Bone marrow

Eye

Heart

Kidney

Liver

Mammary gland

Thyroid

Atrium

Centrilobular

Atrophy, Nos

Retinopathy

Thrombus, Mural

Inflammation, Chronic

Cytoplasmic Vacuolization

Cystic Ducts

C-Cell Adenoma

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_518

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Eye

Retinopathy

Intestine Small

Mesentery Nos

Steatitis

Thyroid

C-Cell Carcinoma

Uterus

Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_519

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Heart

Mammary gland

Myocardium Nos

Retinopathy

Inflammation, Chronic

Cystic Ducts

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_520

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Intestine Small

Mammary gland

Mesentery Nos

Retinopathy

Steatitis

Fibroadenoma

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_521

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Hemorrhage

Tongue

Retinopathy

Cyst, Epidermal Inclusion

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_522

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Eye

Retinopathy

Intestine Small

Mesentery Nos

Necrosis, Fat

Mammary gland

Cystic Ducts

Thyroid

Fibroadenoma

Cyst, Thyroglossal Duct

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_523

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortical Adenoma

Clitoral gland

Pheochromocytoma

Eye

Carcinoma, Nos

Liver

Retinopathy

Uterus

Leukocytosis, Nos

Endometrium

Endometrial Stromal Polyp

Hyperplasia, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_524

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Eye

Heart

Myocardium Nos

Carcinoma, Nos

Retinopathy

Inflammation, Chronic

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_525

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Mammary gland

Fibroadenoma

Stomach

Squamous Cell Papilloma

Uterus

Abscess, Chronic

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_526

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Uterus

Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_527

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Eye

Heart

Unspecified

Myocardium Nos

Axilla

Angiectasis

Retinopathy

Inflammation, Chronic

Fibroma

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_528

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Eye

Retinopathy

Heart

Myocardium Nos

Inflammation, Chronic

Intestine Small

Mesentery Nos

Steatitis

Mammary gland

Cystic Ducts

Thyroid

Fibroadenoma

Cyst, Thyroglossal Duct

Follicular-Cell Adenoma

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_529

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Heart

Kidney

Thyroid

Myocardium Nos

Retinopathy

Inflammation, Chronic

Inflammation, Chronic

C-Cell Adenoma

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_530

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart

Myocardium Nos

Inflammation, Chronic

Liver

Bile Duct

Hyperplasia, Nos

Lung

Congestion, Nos

Mammary gland

Fibroadenoma

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_531

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Heart

Mammary gland

Myocardium Nos

Mammary Lobule

Pituitary gland

Retinopathy

Inflammation, Chronic

Cystic Ducts

Fibroadenoma

Hyperplasia, Nos

Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_532

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye		Retinopathy
Mammary gland	Mammary Lobule	Hyperplasia, Nos
Pituitary gland		Adenoma, Nos
Uterus	Endometrium	Cyst, Nos

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_533

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Mammary gland

Hyperplasia, Cystic

Pituitary gland

Cyst, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_534

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Liver

Cytoplasmic Vacuolization

Pituitary gland

Hyperplasia, Nos

Stomach

Submucosa

Edema, Nos

Unspecified

Multiple Organs Nos

Leukemia, Undifferentiated

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_535

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Lymph node

Mammary gland

Renal Lymph Node

Mammary Lobule

Pituitary gland

Skin

Unspecified

Multiple Organs Nos

Retinopathy

Angiectasis

Cystic Ducts

Fibroadenoma

Hyperplasia, Nos

Adenoma, Nos

Ulcer, Focal

Leukemia, Undifferentiated

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_536

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Heart

Myocardium Nos

Inflammation, Chronic

Thyroid

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_537

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Thyroid

Follicular-Cell Carcinoma

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_538

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Clitoral gland

Carcinoma, Nos

Eye

Retinopathy

Thyroid

C-Cell Adenoma

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_539

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Hemorrhage

Intestine Small

Peyers Patch

Retinopathy

Pituitary gland

Hyperplasia, Lymphoid

Thyroid

Cyst, Hemorrhagic

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_540

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Eye

Liver

Mammary gland

Pituitary gland

Thyroid

Unspecified

Axilla

Cystic Ducts

Retinopathy

Focal Cellular Change

Cystic Ducts

Adenoma, Nos

Hyperplasia, C Cell

Fibroma

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_541

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Mammary gland

Cystic Ducts

Pituitary gland

Fibroadenoma

Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_542

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Adenoma, Nos

Eye

Retinopathy

Intestine Small

Mesentery Nos

Steatitis

Thyroid

Hyperplasia, C Cell

Unspecified

Multiple Organs Nos

Leukemia, Undifferentiated

Uterus

Endometrium

Hyperplasia, Cystic

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_543

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye		Retinopathy
Heart	Myocardium Nos	Inflammation, Chronic
Intestine Small	Mesentery Nos	Steatitis
Kidney		Lymphocytic Inflammatory Infiltrate
Mammary gland		Fibroadenoma
Pituitary gland		Angiectasis
Uterus		Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_544

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Eye

Retinopathy

Mammary gland

Fibroadenoma

Pituitary gland

Adenoma, Nos

Uterus

Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_545

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Kidney

Inflammation, Chronic

Mammary gland

Cystic Ducts

Papillary Adenoma

Pituitary gland

Adenoma, Nos

Thyroid

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_546

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Heart

Kidney

Mammary gland

Thyroid

Tongue

Myocardium Nos

Retinopathy

Inflammation, Chronic

Inflammation, Chronic

Fibroadenoma

C-Cell Adenoma

Hyperplasia, C Cell

Squamous Cell Papilloma

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_547

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye		Retinopathy
Intestine Small	Mesentery Nos	Steatitis
Kidney		Inflammation, Chronic
Mammary gland		Cystic Ducts
Pituitary gland		Adenoma, Nos
Thyroid		Cyst, Thyroglossal Duct
Uterus	Endometrium	Hyperplasia, Adenomatous
	Endometrium	Hyperplasia, Cystic

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_548

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye		Retinopathy
Heart	Myocardium Nos	Inflammation, Chronic
Liver		Leukocytosis, Nos
Mammary gland		Fibroadenoma
Pituitary gland		Adenoma, Nos
Thyroid		Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_549

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Eye

Heart

Pituitary gland

Thyroid

Myocardium Nos

Inflammation, Chronic

Retinopathy

Inflammation, Chronic

Adenoma, Nos

Cyst, Thyroglossal Duct

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 2\_550

**TRT#:** 2

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 300 PPM

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Carcinoma, Nos

Eye

Inflammation, Suppurative

Mammary gland

Retinopathy

Pituitary gland

Cystic Ducts

Thyroid

Fibroadenoma

Adenoma, Nos

C-Cell Adenoma

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_501

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Moribund Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Spleen

Thyroid

Uterus

Hematopoiesis

Hyperplasia, C Cell

Endometrial Stromal Sarcoma

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_502

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Lymph node

Mesenteric Lymph Node

Lymphoma, Mixed-Malignant Type

Mammary gland

Fibroadenoma

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_503

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Heart

Myocardium Nos

Inflammation, Chronic

Intestine Small

Mesentery Nos

Neurofibrosarcoma

Kidney

Inflammation, Chronic

Mammary gland

Cystic Ducts

Pituitary gland

Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_504

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Natural Death

**HISTO:**

---

**OBSERVATIONS**

Heart

Myocardium Nos

Inflammation, Chronic

Lung

Congestion, Nos

Mammary gland

Fibroadenoma

Pituitary gland

Carcinoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_505

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye		Retinopathy
Heart	Myocardium Nos	Inflammation, Chronic
Intestine Small	Mesentery Nos	Necrosis, Fat
Liver		Focal Cellular Change
Lung		Alveolar/Bronchiolar Adenoma
Pituitary gland		Adenoma, Nos
Thyroid		C-Cell Adenoma

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_506

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Inflammation, Chronic
Intestine Large	Rectum	Cyst, Epidermal Inclusion
Liver		Cytoplasmic Vacuolization

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_507

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Intestine Small

Peyers Patch

Hyperplasia, Nos

Mammary gland

Fibroadenoma

Spleen

Hemosiderosis

Unspecified

Leg

Basal-Cell Carcinoma

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_508

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Natural Death

**HISTO:**

---

**OBSERVATIONS**

Heart

Myocardium Nos

Inflammation, Chronic

Liver

Mitotic Alteration

Mammary gland

Fibroadenoma

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_509

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart

Myocardium Nos

Inflammation, Chronic

Intestine Small

Peyers Patch

Hyperplasia, Lymphoid

Mammary gland

Cystic Ducts

Pituitary gland

Adenoma, Nos

Thyroid

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_510

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Bone marrow

Clitoral gland

Eye

Lymph node

Mammary gland

Pituitary gland

Thyroid

Uterus

Inguinal Lymph Node

Endometrium

Hyperplasia, Reticulum Cell

Carcinoma, Nos

Retinopathy

Hyperplasia, Lymphoid

Cystic Ducts

Adenoma, Nos

C-Cell Adenoma

Hyperplasia, Focal

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_511

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Moribund Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Mammary gland

Pituitary gland

Thyroid

Cystic Ducts

Adenoma, Nos

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_512

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Inflammation, Chronic
Intestine Small	Mesentery Nos	Necrosis, Fat
	Mesentery Nos	Torsion
Pancreas	Acinus	Atrophy, Nos
		Necrosis, Fat
Uterus	Endometrium	Cyst, Nos

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_513

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Intestine Large

Colon

Nematodiasis

Intestine Small

Mesentery Nos

Necrosis, Fat

Kidney

Inflammation, Chronic

Pituitary gland

Carcinoma, Nos

Thyroid

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_514

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Brain  
Preputial gland  
Thyroid

Cerebellum Nos

Meningioma  
Inflammation, Suppurative  
C-Cell Adenoma

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_515

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Angiectasis

Intestine Small

Cortex Nos

Cytoplasmic Vacuolization

Kidney

Mesentery Nos

Inflammation, Chronic

Mammary gland

Inflammation, Chronic

Pituitary gland

Cystic Ducts

Stomach

Submucosa

Adenoma, Nos

Edema, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_516

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Inflammation, Chronic
Mammary gland		Adenocarcinoma, Nos
		Cystic Ducts
Pituitary gland		Adenoma, Nos
Thymus		Thymoma, Benign
Uterus	Endometrium	Hyperplasia, Cystic

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_517

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Intestine Small

Peyers Patch

Hyperplasia, Lymphoid

Thyroid

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_518

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Intestine Small

Peyers Patch

Hyperplasia, Lymphoid

Pituitary gland

Adenoma, Nos

Thyroid

Hyperplasia, C Cell

Unspecified

Multiple Organs Nos

Leukemia, Undifferentiated

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_519

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Heart

Intestine Small

Pancreas

Thyroid

Myocardium Nos

Mesentery Nos

Carcinoma, Nos

Inflammation, Chronic Focal

Necrosis, Fat

Inflammation, Chronic

C-Cell Carcinoma

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_520

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Natural Death

**HISTO:**

---

**OBSERVATIONS**

Pancreas

Islets

Islet-Cell Carcinoma

Uterus

Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_521

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Kidney

Mammary gland

Pituitary gland

Inflammation, Chronic

Cystic Ducts

Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_522

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Inflammation, Chronic
Pancreas	Islets	Islet-Cell Adenoma
Unspecified	Pelvis	Abscess, Chronic
	Pelvis	Inflammation, Granulomatous

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_523

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Intestine Small

Mammary gland

Pituitary gland

Thyroid

Peyers Patch

Retinopathy

Hyperplasia, Lymphoid

Cystic Ducts

Fibroadenoma

Adenoma, Nos

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_524

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Pancreas

Atrophy, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_525

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Mammary gland

Pituitary gland

Thyroid

Cystic Ducts

Adenoma, Nos

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_526

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Inflammation, Chronic Focal
Mammary gland		Cystic Ducts
	Mammary Lobule	Hyperplasia, Nos
Pituitary gland		Adenoma, Nos
Unspecified	Multiple Organs Nos	Leukemia, Undifferentiated
Uterus		Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_527

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart

Myocardium Nos

Inflammation, Chronic

Intestine Small

Mesentery Nos

Steatitis

Pituitary gland

Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_528

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Eye

Retinopathy

Mammary gland

Cystic Ducts

Pituitary gland

Fibroadenoma

Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_529

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Eye

Liver

Thyroid

Retinopathy

Focal Cellular Change

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_530

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Eye

Liver

Mammary gland

Uterus

Retinopathy

Focal Cellular Change

Cystic Ducts

Fibroadenoma

Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_531

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Medulla

Hyperplasia, Focal

Heart

Myocardium Nos

Inflammation, Chronic

Kidney

Inflammation, Chronic

Uterus

Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_532

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Inflammation, Chronic
Mammary gland		Fibroadenoma
Thyroid		Hyperplasia, C Cell
Uterus		Endometrial Stromal Polyp

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_533

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Inflammation, Chronic
Intestine Small	Mesentery Nos	Necrosis, Fat
Liver		Focal Cellular Change
Mammary gland		Cystic Ducts
		Fibroadenoma
	Mammary Lobule	Hyperplasia, Nos
Pancreas		Inflammation, Chronic
Pituitary gland		Adenoma, Nos
Thyroid		C-Cell Carcinoma

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_534

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Natural Death

**HISTO:**

---

**OBSERVATIONS**

Brain

Hemorrhage

Unspecified

Multiple Organs Nos

Leukemia, Undifferentiated

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_535

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Kidney

Mammary gland

Pituitary gland

Pheochromocytoma

Inflammation, Chronic

Fibroadenoma

Carcinoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_536

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Eye

Retinopathy

Heart

Myocardium Nos

Inflammation, Chronic

Mammary gland

Adenocarcinoma, Nos

Cystic Ducts

Pituitary gland

Adenoma, Nos

Skin

Ulcer, Nos

Thyroid

Hyperplasia, C Cell

Uterus

Endometrium

Cyst, Nos

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_537

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Heart

Intestine Small

Mammary gland

Thyroid

Myocardium Nos

Mesentery Nos

Carcinoma, Nos

Inflammation, Chronic

Necrosis, Fat

Fibroadenoma

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_538

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Cortex Nos

Cytoplasmic Vacuolization

Heart

Myocardium Nos

Inflammation, Chronic

Liver

Cytoplasmic Change, Nos

Mammary gland

Adenocarcinoma, Nos

Thyroid

Cystic Ducts

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_539

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Cystic Ducts

Heart

Myocardium Nos

Inflammation, Suppurative

Mammary gland

Inflammation, Chronic

Pituitary gland

Cystic Ducts

Fibroadenoma

Adenoma, Nos

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_540

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Clitoral gland

Heart

Liver

Mammary gland

Thyroid

Myocardium Nos

Cortical Adenoma

Adenoma, Nos

Cystic Ducts

Inflammation, Chronic

Inflammation, Chronic

Focal Cellular Change

Cystic Ducts

Fibroadenoma

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_541

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Adenoma, Nos

Liver

Bile Duct

Cystic Ducts

Pituitary gland

Hyperplasia, Nos

Spleen

Adenoma, Nos

Thyroid

Fibrosis

Unspecified

Multiple Organs Nos

Follicular-Cell Carcinoma

Leukemia, Undifferentiated

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_542

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Natural Death

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Spleen

Urinary bladder

Hemosiderosis

Hyperplasia, Epithelial

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_543

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Thyroid

C-Cell Adenoma

Unspecified

Multiple Organs Nos

Lymphoma, Lymphocytic-Malignant Type

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE



**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_544

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Scheduled Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart  
Intestine Small  
Mammary gland

Myocardium Nos  
Mesentery Nos

Inflammation, Chronic  
Necrosis, Fat  
Cystic Ducts  
Fibroadenoma  
Hyperplasia, Cystic  
Adenoma, Nos

Pituitary gland

---

**PRIMARY CAUSE OF DEATH**

-

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_545

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Mammary gland

Cystic Ducts

Fibroadenoma

Thyroid

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_546

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Mammary gland

Fibroadenoma

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_547

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Adrenal gland

Kidney

Thyroid

Unspecified

Uterus

Pelvis

Pelvis

Endometrium

Endometrium

Endometrium

Cortical Adenoma

Inflammation, Chronic

C-Cell Adenoma

Cyst, Epidermal Inclusion

Inflammation, Acute/Chronic

Hyperplasia, Adenomatous

Hyperplasia, Cystic

Inflammation, Suppurative

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_548

**TRT#:** 3

**SEX:** Female

**DAY ON TEST:**

**DOSE:** 0

**DISP:** Moribund Sacrifice

**HISTO:**

---

**OBSERVATIONS**

Heart	Myocardium Nos	Inflammation, Chronic
Liver	Centrilobular	Cytoplasmic Vacuolization
Thyroid		C-Cell Adenoma
Unspecified	Multiple Organs Nos	Lymphoma, Lymphocytic-Malignant Type

---

**PRIMARY CAUSE OF DEATH**

-

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\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_549

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Heart

Mammary gland

Thyroid

Myocardium Nos

Hyperplasia, Nos

Inflammation, Chronic

Cystic Ducts

Hyperplasia, C Cell

---

**PRIMARY CAUSE OF DEATH**

-

---

\* PROTOCOL REQUIRED TISSUE

**Experiment Number:** C50442

**Test Type:** Long-Term

**Route:** Dosed-Feed

**Species/Strain:** Rat/F344

**P14: INDIVIDUAL ANIMAL PATHOLOGY DATA**

**Test Compound:** Ziram

**CAS Number:** 137-30-4

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

**Time Report Requested:** 15:11:59

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

**Lab:** NA

---

**ANIMAL ID:** 3\_550

**TRT#:** 3

**DOSE:** 0

**SEX:** Female

**DISP:** Scheduled Sacrifice

**DAY ON TEST:**

**HISTO:**

---

**OBSERVATIONS**

Clitoral gland

Intestine Small

Lymph node

Mammary gland

Pancreas

Thyroid

Mesentery Nos

Mesenteric Lymph Node

Mammary Lobule

Inflammation, Chronic Suppurative

Necrosis, Fat

Lymphangiectasis

Hyperplasia, Nos

Atrophy, Nos

C-Cell Carcinoma

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**PRIMARY CAUSE OF DEATH**

-

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