

Experiment Number: 99019 - 03

Test Type: 90-DAY

Route: RESPIRATORY EXPOSURE WHOLE BODY

Species/Strain: RATS/F 344/N

P03: INCIDENCE RATES OF NON-NEOPLASTIC LESIONS BY ANATOMIC SITE(a)

Triethylamine

CAS Number: 121-44-8

Date Report Requested: 01/05/2017

Time Report Requested: 11:01:43

First Dose M/F: 01/20/03 / 01/21/03

Lab: BNW

Revised Final 2 _R2

NTP Study Number: C99019

Lock Date: 09/16/2003

Cage Range: ALL

Date Range: ALL

Reasons For Removal: ALL

Removal Date Range: ALL

Treatment Groups: Include ALL

Study Gender: Both

TDMSE Version: 3.0.2.3_002

PWG Approval Date: NONE

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| FISCHER 344 RATS MALE | CONTROL | 12.5 PPM | 25 PPM | 50 PPM | 100 PPM | 200 PPM |
|----------------------------------|---------|----------|--------|--------|---------|---------|
| Disposition Summary | | | | | | |
| Animals Initially In Study | 10 | 10 | 10 | 10 | 10 | 10 |
| Early Deaths | | | | | | |
| Survivors | | | | | | |
| Terminal Sacrifice | 10 | 10 | 10 | 10 | 10 | 10 |
| Animals Examined Microscopically | 10 | 10 | 10 | 10 | 10 | 10 |

ALIMENTARY SYSTEM

| | | | | | | |
|-------------------------------|------|---------|---------|---------|---------|---------|
| Esophagus | (10) | (0) | (0) | (0) | (0) | (10) |
| Intestine Large, Cecum | (10) | (10) | (10) | (10) | (10) | (10) |
| Intestine Large, Colon | (10) | (10) | (10) | (10) | (10) | (10) |
| Intestine Large, Rectum | (9) | (9) | (10) | (10) | (10) | (10) |
| Intestine Small, Duodenum | (10) | (10) | (10) | (9) | (10) | (10) |
| Intestine Small, Ileum | (10) | (10) | (10) | (10) | (10) | (10) |
| Intestine Small, Jejunum | (10) | (10) | (10) | (10) | (10) | (10) |
| Liver | (10) | (10) | (10) | (10) | (10) | (10) |
| Clear Cell Focus | | | | | 1 (10%) | |
| Hepatodiaphragmatic Nodule | | 3 (30%) | 4 (40%) | | | 1 (10%) |
| Inflammation | | | | 2 (20%) | | |
| Bile Duct, Hyperplasia, Focal | | | 1 (10%) | | | |
| Pancreas | (10) | (0) | (0) | (0) | (0) | (10) |
| Salivary Glands | (10) | (0) | (0) | (0) | (0) | (10) |
| Stomach, Forestomach | (10) | (10) | (10) | (9) | (10) | (10) |
| Stomach, Glandular | (10) | (10) | (10) | (10) | (10) | (10) |

CARDIOVASCULAR SYSTEM

| | | | | | | |
|-------|------|-----|-----|-----|-----|------|
| Heart | (10) | (0) | (0) | (0) | (0) | (10) |
|-------|------|-----|-----|-----|-----|------|

ENDOCRINE SYSTEM

| | | | | | | |
|-----------------|------|-----|-----|-----|-----|------|
| Adrenal Cortex | (10) | (0) | (0) | (0) | (0) | (10) |
| Adrenal Medulla | (10) | (0) | (0) | (0) | (0) | (10) |

a - Number of animals examined microscopically at site and number of animals with lesion

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| FISCHER 344 RATS MALE | CONTROL | 12.5 PPM | 25 PPM | 50 PPM | 100 PPM | 200 PPM |
|-----------------------|---------|----------|--------|--------|---------|---------|
| Islets, Pancreatic | (10) | (0) | (0) | (0) | (0) | (10) |
| Parathyroid Gland | (8) | (0) | (0) | (0) | (0) | (10) |
| Pituitary Gland | (10) | (0) | (0) | (0) | (0) | (10) |
| Thyroid Gland | (10) | (0) | (0) | (0) | (0) | (10) |

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

| | | | | | | |
|---------------------------|---------|-----|-----|-----|-----|------|
| Epididymis | (10) | (0) | (0) | (0) | (0) | (10) |
| Preputial Gland | (10) | (0) | (0) | (0) | (0) | (10) |
| Prostate | (10) | (0) | (0) | (0) | (0) | (10) |
| Inflammation, Suppurative | 1 (10%) | | | | | |
| Seminal Vesicle | (10) | (0) | (0) | (0) | (0) | (10) |
| Testes | (10) | (0) | (0) | (0) | (0) | (10) |

HEMATOPOIETIC SYSTEM

| | | | | | | |
|-------------------------|---------|-----|-----|-----|-----|------|
| Bone Marrow | (10) | (0) | (0) | (0) | (0) | (10) |
| Lymph Node, Bronchial | (0) | (0) | (0) | (0) | (0) | (1) |
| Lymph Node, Mediastinal | (7) | (0) | (0) | (0) | (0) | (2) |
| Ectasia | 1 (14%) | | | | | |
| Lymph Node, Mesenteric | (10) | (0) | (0) | (0) | (0) | (10) |
| Spleen | (10) | (0) | (0) | (0) | (0) | (10) |
| Thymus | (10) | (0) | (0) | (0) | (0) | (10) |

INTEGUMENTARY SYSTEM

| | | | | | | |
|---------------|------|-----|-----|-----|-----|------|
| Mammary Gland | (7) | (0) | (0) | (0) | (0) | (4) |
| Skin | (10) | (0) | (0) | (0) | (0) | (10) |

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| FISCHER 344 RATS MALE | CONTROL | 12.5 PPM | 25 PPM | 50 PPM | 100 PPM | 200 PPM |
|---|---------|----------|---------|-----------|-----------|-----------|
| MUSCULOSKELETAL SYSTEM | | | | | | |
| Bone | (10) | (0) | (0) | (0) | (0) | (10) |
| Skeletal Muscle | (1) | (0) | (0) | (0) | (0) | (0) |
| NERVOUS SYSTEM | | | | | | |
| Brain | (10) | (0) | (0) | (0) | (0) | (10) |
| RESPIRATORY SYSTEM | | | | | | |
| Larynx | (10) | (10) | (10) | (10) | (10) | (10) |
| Infiltration Cellular, Mononuclear Cell | | 3 (30%) | | 1 (10%) | | |
| Inflammation | | | | 1 (10%) | | |
| Glands, Inflammation, Suppurative | | | | | 1 (10%) | |
| Squamous Epithelium, Metaplasia | | 1 (10%) | | 1 (10%) | | |
| Lung | (10) | (10) | (10) | (10) | (10) | (10) |
| Inflammation, Focal | | | | 1 (10%) | | |
| Metaplasia, Osseous | 2 (20%) | | 2 (20%) | 2 (20%) | 1 (10%) | |
| Alveolar Epithelium, Hyperplasia | 1 (10%) | | | | | |
| Alveolar Epithelium, Infiltration Cellular, Polymorphonuclear | 1 (10%) | | | | | |
| Alveolus, Infiltration Cellular, Histiocyte | 4 (40%) | 5 (50%) | 3 (30%) | 2 (20%) | 6 (60%) | 6 (60%) |
| Nose | (10) | (10) | (10) | (10) | (10) | (10) |
| Olfactory Epithelium, Atrophy | | | | 10 (100%) | 10 (100%) | 10 (100%) |
| Respiratory Epithelium, Accumulation, Hyaline Droplet | | | | | | 3 (30%) |
| Respiratory Epithelium, Hyperplasia | | 3 (30%) | 9 (90%) | 9 (90%) | 10 (100%) | 10 (100%) |
| Trachea | (10) | (10) | (10) | (10) | (10) | (10) |
| SPECIAL SENSES SYSTEM | | | | | | |
| Eye | (9) | (10) | (10) | (10) | (10) | (10) |
| Cornea, Mineralization | | | | 1 (10%) | | 3 (30%) |

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| FISCHER 344 RATS MALE | CONTROL | 12.5 PPM | 25 PPM | 50 PPM | 100 PPM | 200 PPM |
|---|---------|----------|---------|--------|----------|---------|
| Cornea, Necrosis | | | | | | 1 (10%) |
| Cornea, Epithelium, Vacuolation | | | | | | 2 (20%) |
| Retina, Degeneration | | | | | | |
| Harderian Gland | (10) | (0) | (0) | (0) | (1) | (10) |
| Infiltration Cellular, Mononuclear Cell | 1 (10%) | | | | 1 (100%) | 1 (10%) |
| URINARY SYSTEM | | | | | | |
| Kidney | (10) | (10) | (10) | (10) | (10) | (10) |
| Nephropathy | 1 (10%) | | 1 (10%) | | 1 (10%) | |
| Renal Tubule, Cyst | | | | | | |
| Urinary Bladder | (10) | (0) | (0) | (0) | (0) | (10) |

*** END OF MALE ***

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|----------------------------------|---------|----------|--------|--------|---------|---------|
| Disposition Summary | | | | | | |
| Animals Initially In Study | 10 | 10 | 10 | 10 | 10 | 10 |
| Early Deaths | | | | | | |
| Survivors | | | | | | |
| Terminal Sacrifice | 10 | 10 | 10 | 10 | 10 | 10 |
| Animals Examined Microscopically | 10 | 10 | 10 | 10 | 10 | 10 |

ALIMENTARY SYSTEM

| | | | | | | |
|-------------------------------|---------|---------|----------|----------|---------|---------|
| Esophagus | (10) | (0) | (0) | (0) | (0) | (10) |
| Intestine Large, Cecum | (10) | (10) | (10) | (10) | (10) | (10) |
| Intestine Large, Colon | (10) | (10) | (10) | (10) | (10) | (10) |
| Intestine Large, Rectum | (8) | (10) | (10) | (10) | (9) | (10) |
| Intestine Small, Duodenum | (10) | (10) | (9) | (10) | (10) | (10) |
| Intestine Small, Ileum | (10) | (10) | (10) | (10) | (10) | (10) |
| Intestine Small, Jejunum | (10) | (10) | (10) | (10) | (10) | (10) |
| Serosa, Inflammation, Chronic | | 1 (10%) | | | | |
| Liver | (10) | (10) | (10) | (10) | (10) | (10) |
| Hepatodiaphragmatic Nodule | 1 (10%) | | | 1 (10%) | 1 (10%) | 2 (20%) |
| Inflammation | 1 (10%) | | 2 (20%) | 2 (20%) | 1 (10%) | 1 (10%) |
| Inflammation, Chronic | | 1 (10%) | | | | |
| Serosa, Fibrosis | | | | | 1 (10%) | |
| Mesentery | (0) | (0) | (2) | (1) | (0) | (0) |
| Fat, Necrosis, Chronic | | | 2 (100%) | 1 (100%) | | |
| Pancreas | (10) | (0) | (0) | (0) | (0) | (10) |
| Atrophy | 1 (10%) | | | | | |
| Salivary Glands | (10) | (0) | (0) | (0) | (0) | (10) |
| Stomach, Forestomach | (10) | (10) | (10) | (10) | (10) | (10) |
| Stomach, Glandular | (10) | (10) | (10) | (10) | (10) | (10) |
| Cyst | | | | | | 1 (10%) |

CARDIOVASCULAR SYSTEM

| | | | | | | |
|-------|------|-----|-----|-----|-----|------|
| Heart | (10) | (0) | (0) | (0) | (1) | (10) |
|-------|------|-----|-----|-----|-----|------|

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|-------------------------|---------|----------|--------|--------|---------|---------|
|-------------------------|---------|----------|--------|--------|---------|---------|

| | | | | | | |
|--|--|--|--|--|----------|--|
| Pericardium, Fibrosis | | | | | 1 (100%) | |
| Pericardium, Infiltration Cellular, Mononuclear Cell | | | | | 1 (100%) | |

ENDOCRINE SYSTEM

| | | | | | | |
|--------------------|------|-----|-----|-----|-----|------|
| Adrenal Cortex | (10) | (0) | (0) | (0) | (0) | (10) |
| Adrenal Medulla | (10) | (0) | (0) | (0) | (0) | (10) |
| Islets, Pancreatic | (10) | (0) | (0) | (0) | (0) | (10) |
| Parathyroid Gland | (9) | (0) | (0) | (0) | (0) | (8) |
| Pituitary Gland | (10) | (0) | (0) | (0) | (0) | (10) |
| Thyroid Gland | (9) | (0) | (0) | (0) | (0) | (10) |

GENERAL BODY SYSTEM

None

GENITAL SYSTEM

| | | | | | | |
|--------------------------|---------|-----|----------|----------|----------|---------|
| Clitoral Gland | (10) | (0) | (0) | (0) | (0) | (10) |
| Ovary | (10) | (0) | (1) | (1) | (1) | (10) |
| Metaplasia, Lipocyte | 1 (10%) | | | | | |
| Periovarian Tissue, Cyst | | | 1 (100%) | 1 (100%) | 1 (100%) | 1 (10%) |
| Uterus | (10) | (0) | (0) | (0) | (0) | (10) |

HEMATOPOIETIC SYSTEM

| | | | | | | |
|--------------------------------------|------|----------|-----|----------|----------|------|
| Bone Marrow | (10) | (0) | (0) | (0) | (0) | (10) |
| Lymph Node | (0) | (1) | (0) | (1) | (1) | (0) |
| Pancreatic, Hyperplasia, Histiocytic | | 1 (100%) | | 1 (100%) | 1 (100%) | |
| Lymph Node, Bronchial | (0) | (0) | (0) | (0) | (0) | (2) |
| Lymph Node, Mandibular | (1) | (0) | (0) | (0) | (0) | (1) |
| Lymph Node, Mediastinal | (5) | (0) | (0) | (0) | (0) | (6) |
| Lymph Node, Mesenteric | (10) | (0) | (0) | (0) | (0) | (10) |

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| FISCHER 344 RATS FEMALE | CONTROL | 12.5 PPM | 25 PPM | 50 PPM | 100 PPM | 200 PPM |
|---|---------|----------|---------|-----------|-----------|-----------|
| Spleen | (10) | (0) | (0) | (0) | (0) | (10) |
| Thymus | (10) | (0) | (0) | (0) | (0) | (10) |
| INTEGUMENTARY SYSTEM | | | | | | |
| Mammary Gland | (10) | (0) | (0) | (0) | (0) | (10) |
| Skin | (10) | (0) | (0) | (0) | (0) | (10) |
| MUSCULOSKELETAL SYSTEM | | | | | | |
| Bone | (10) | (0) | (0) | (0) | (0) | (10) |
| NERVOUS SYSTEM | | | | | | |
| Brain | (10) | (0) | (0) | (0) | (0) | (10) |
| RESPIRATORY SYSTEM | | | | | | |
| Larynx | (9) | (10) | (10) | (10) | (10) | (10) |
| Granuloma | | | | 1 (10%) | 1 (10%) | |
| Infiltration Cellular, Mononuclear Cell | | 1 (10%) | 1 (10%) | | | |
| Inflammation | | 1 (10%) | | | | |
| Lung | (10) | (10) | (10) | (10) | (10) | (10) |
| Inflammation, Focal | | | | | | 1 (10%) |
| Metaplasia, Osseous | | | | | | 1 (10%) |
| Mineralization | | | | | | 1 (10%) |
| Alveolar Epithelium, Hyperplasia | 1 (10%) | | | | | |
| Alveolus, Infiltration Cellular, Histiocyte | 2 (20%) | 1 (10%) | 4 (40%) | 4 (40%) | 7 (70%) | 7 (70%) |
| Nose | (10) | (10) | (10) | (10) | (10) | (10) |
| Foreign Body | 1 (10%) | | | | | |
| Inflammation, Chronic | | | | 1 (10%) | 2 (20%) | |
| Olfactory Epithelium, Atrophy | | | 4 (40%) | 10 (100%) | 10 (100%) | 10 (100%) |
| Respiratory Epithelium, Accumulation, Hyaline Droplet | | | | | 1 (10%) | |

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|-------------------------------------|---------|----------|---------|-----------|-----------|-----------|
| Respiratory Epithelium, Hyperplasia | | 3 (30%) | 9 (90%) | 10 (100%) | 10 (100%) | 10 (100%) |
| Pleura | (0) | (0) | (0) | (0) | (1) | (0) |
| Hyperplasia | | | | | 1 (100%) | |
| Inflammation, Chronic | | | | | 1 (100%) | |
| Trachea | (10) | (10) | (10) | (10) | (10) | (10) |

| SPECIAL SENSES SYSTEM | | | | | | |
|---|---------|------|---------|------|---------|---------|
| Eye | (10) | (10) | (10) | (10) | (10) | (10) |
| Anterior Chamber, Infiltration Cellular, Macrophage | | | | | | 1 (10%) |
| Cornea, Edema | | | | | | 1 (10%) |
| Cornea, Inflammation, Chronic | | | | | | 1 (10%) |
| Cornea, Mineralization | | | | | | 2 (20%) |
| Cornea, Necrosis | | | | | | 1 (10%) |
| Cornea, Vesicle, Subepithelial | | | | | | 3 (30%) |
| Cornea, Epithelium, Ulcer | | | | | | 1 (10%) |
| Lens, Cataract | | | | | | 1 (10%) |
| Retina, Degeneration | | | 1 (10%) | | 2 (20%) | 1 (10%) |
| Retina, Dysplasia | | | | | | 1 (10%) |
| Harderian Gland | (10) | (0) | (0) | (0) | (0) | (10) |
| Infiltration Cellular, Mononuclear Cell | 1 (10%) | | | | | 3 (30%) |

URINARY SYSTEM

| | | | | | | |
|-----------------|------|------|------|------|------|------|
| Kidney | (10) | (10) | (10) | (10) | (10) | (10) |
| Urinary Bladder | (10) | (0) | (0) | (0) | (0) | (10) |

*** END OF REPORT ***

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