

製品安全データシート

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作成 1996年10月 1日
改訂 2001年 6月11日

整理番号：1799.4

製品名 OMNIREZ 2000

物質の特定 単一製品・混合物の区別
：混合物
化学名 : メチルビニルエーテル・無水マレイン酸モノエチル
エステル共重合物のエタノール溶液
含有量 : 重合物 50%
エタノール 50%
化学式 : 重合物 $(C_6H_8O_4 \cdot C_3H_6O)_n$
エタノール C_2H_5OH
官報公示整理番号：化審法・安衛法
：重合物 (6) - 1079
エタノール (2) - 202
CASNo. : 重合物 25087-06-3
エタノール 64-17-5
国連分類：3 国連番号：1866
PRT法： 非該当
安衛法通知対象物質： 該当(エチルアルコール含有)

危険有害性の分類 分類の名称：引火性液体
危険性 : 引火性の液体
有害性 : 眼に刺激性あり
環境影響 :

応急措置

眼に入った場合 : 直ちに流水で15分以上洗眼し、医師の手当を受ける。
皮膚に触れた場合 : 特に必要なし。
吸入した場合 : 患者を直ちに空気の新鮮な場所に移し、安静にして速やかに
医師の手当を受ける。
飲み込んだ場合 : 多量の水を飲ませた後、指を喉に差し込んで吐かせ、直ちに
医師の手当を受ける。患者に意識がない場合には、口から何
も与えてはならないし、吐かせようとしてもいけない。

火災時の措置

消火方法：

(1) 周辺火災の場合

速やかに容器を安全な場所に移す。

移動不可能な場合は容器及び周囲に散水し消火する。

(2) 着火した場合

火元への燃料源を断ち、消火剤を使用して消火する。

スプレー水で火災に曝露されている表面を冷やす。

消火作業は風上から行い、消火を行う人は場合によって呼吸保護具を着用する。

消火剤：噴霧水、泡（耐アルコール）、粉末、二酸化炭素

漏出時の措置

(1) 保護具を着用し、風上から作業する。

(2) 付近の着火源となるものは速やかに取り除く。

(3) 下水等に入り込まないように注意する。

(4) 漏れた液は砂などで囲みビニールシート等で覆い、蒸気の発生を抑えながら回収する。

(5) 関係箇所に通報し、応援を求める。

取扱い及び保管上の注意

消防法等の関連法規に準拠して作業する。

取扱い：(1) できるだけ吸入、皮膚接触を防ぎ、必要に応じ適切な保護具を着用し、風上から作業する。

(2) 蒸気の発散をできるだけ抑える。

(3) 取り扱い後は手洗いを十分に行い、作業衣等に付着した場合は着替える。

(4) 取扱場所では火気、火花、アークを発する物又は高温点火源を使用しない。

(5) 強酸化剤との接触をさける。

(6) 漏れ、あふれ、飛散しないようにし、みだりに蒸気を発散させない。

(7) 取扱場所で使用する電気機器は防爆構造とし、機器類は静電気対策を講じる。

保管：(1) 消防法に基づく危険物第4類第1石油類（非水溶性）に指定されているので指定数量以上を貯蔵する場合、位置、構造、設備等は法の規制に従うこと。

(2) 貯蔵場所では常に整理整頓及び清掃に努め、みだりに不必要な可燃物を放置しないこと。

(3) 収納した容器を貯蔵するときは地震等で容器が容易に転落、転倒し又は他の落下物により損傷を受けないようにする。

暴露防止措置

管理濃度：なし

許容濃度：日本産業衛生学会勧告値（1998年版）

時間荷重平均：未設定

ACGIH(1998)勧告値

時間加重平均(TWA) : 1,000 ppm (1,880 mg/m³)(イタノール)

設備対策 : 蒸気の発生源を密閉する設備又は局所排気装置を設ける。

保護具 : 有機ガス用防毒マスク、送気マスク、空気呼吸器、酸素呼吸器、保護眼鏡、保護手袋

その他の衛生上の予防措置

- (1) 取り扱い後は手洗い、洗眼を十分に行う。
- (2) 健康診断を定期的実施する。
- (3) 安全衛生教育を実施する。

物理 / 化学的性質

外観 : 粘稠な液体
比重 : 0.7893 (20 /4)(イタノール)
沸点 : 78.5 (イタノール)
融点 : - 114.1 (イタノール)
蒸気圧 : 5.3 kPa (40 mmHg(19)) (イタノール)
蒸気比重 : 1.59 (空気 = 1)(イタノール)
溶解性 : データなし
その他 : アルコール臭、蒸発速度 2.70(イタノール) (酢酸ブチル = 1)

危険性情報 (安定性、反応性)

引火点 : 8.3 (CC)
発火点 : 363 (イタノール)
爆発範囲 : (イタノール) 上限 19.0 % 下限 3.3 %
反応性 : 一般的な取扱い及び貯蔵においては安定である。
自己反応性 : 特になし

引火性の液体であり、蒸気は空気よりも重く、温度が高い場所では蒸発したガスが低所に滞留して爆発性混合ガスを作る可能性がある。

有害性情報

刺激性 : 皮膚 ウサギ 弱い刺激性
眼 ウサギ 中程度 ~ 激しい刺激性
感作性 : データなし
急性毒性 : 経口 ラット LD₅₀ 5,000 mg/kg 以上
経皮 ウサギ LD₀ 20,000 mg/kg (イタノール)
吸入 ラット LC₅₀ 20,000 ppm/10 hr(イタノール)
亜急性及び慢性毒性 :
経口 ヒト
結果 : 心臓血管影響、肝硬変(イタノール)
吸入 ラット 90日間投与 無悪影響量(NOEL) 1.8 mg/m³
発がん性 : データなし
変異原性 : エームズ試験 : 陰性
催奇形性 : 経口 イヌ 500 ml/day 妊娠期間中 20日間

結果：神経障害、コレステロールエステルの減少(イタノール)
経口 ヒト

結果：胎児アルコール障害と知能発達の遅れ
代謝・排泄： データなし

環境影響情報

生分解性： データなし
生態影響： TLm 1,000 ppm 以上(イタノール)

廃棄上の注意

- (1) 空容器であっても、内容物が残留していることがあるので取扱いには注意する。
- (2) 空の小型容器は栓を固く締め、空容器であることを表示し、引火の危険性のない場所に置く。
- (3) 容器を修理又は廃棄する場合は、液抜きした後、水洗又はスチーム洗浄を行い有機物を完全に除去した後に行う。
- (4) 廃液、高温排水、スラッジなどは、そのまま又は易燃性溶剤とともに、少量ずつ焼却炉に噴射して焼却処理するか、又は廃棄物処理免許を持つ処理業者に処理を委託する。
焼却処理の場合は、有害ガス(NO_x , CO_x 等)が発生する恐れがあるので燃焼排ガスの処理対策を講ずる。

輸送上の注意

- (1) 車輛等によって運搬する場合、荷送人は運送人に運送注意書を交付するのが望ましい。
- (2) 輸送前に容器が密封されているか、又は液やガスの漏れがないかを確認する。
- (3) 容器の輸送及び運搬は、常にしっかりと固定した状態で行い、特に瓶及び缶は輸送中に互いに衝突して破損することのないようにあらかじめ適当な緩衝物を詰めていく。

主な適用法規

消防法

法別表：危険物第4類第1石油類(非水溶性)(指定数量200L)
危規則：中引火点引火性液体

その他

記載内容は現時点で入手できる資料、情報、データに基づいて作成しており、新しい知見により改訂されることがあります。また、通常の手続きを対象としたものであって、特別な取扱いをする場合は用途・用法に適した安全対策を実施の上、ご利用下さい。記載内容は情報提供であって、保証するものではありません。

全ての化学製品には未知の有害性があり得るため、取扱いには細心の注意が必要です。

ご使用各位の責任において、安全な使用条件を設定して下さいようお願い申し上げます。

参考文献

1) ISP TECHNOLOGIES INC. MATERIAL SAFETY DATA SHEET

参考資料 1

化審法と同じ様な主な国の法律の登録状況

TSCA(アメリカ) DSL(カナダ国内) NDSL(カナダ国外) EINECS(E U) ECL(韓国)

Copyright - 1995 American Chemical Society.

CAS REGISTRY NUMBER:25087-06-3

ECL Serial No. 9206-140

INVENTORY NAME(S):

2-Butenedioic acid (Z)-, monoethyl ester, polymer with methoxyethene(TSCA, DSL)

Maleate acide d'ethyle polymerise avec le methoxyethylene (French) (DSL)

(Z)-2-Butenedioic acid monoethyl ester polymer with methoxyethene(ECL)

OTHER NAME(S):

Ethyl maleate-methyl vinyl ether polymer

Maleic acid monoethyl ester-methyl vinyl ether polymer

Maleic acid, monoethyl ester, polymer with methyl vinyl ether

Methyl vinyl ether-monoethyl maleate copolymer

Monoethyl maleate-methyl vinyl ether polymer

EPA FLAGS:

XU Exempt from Update Rule

FORMULA : (C6H8O4.C3H6O)x

COMPONENT A : 3990-03-2 ; C6H8O4

COMPONENT B : 107-25-5 ; C3H6O

参考資料 1-2

CAS REGISTRY NUMBER : 64-17-5

EINECS No. 200-578-6

ECL Serial No. 2-858

INVENTORY NAME(S):

Ethanol (English, French, German) (TSCA, DSL, EINECS, ECL)

OTHER NAME(S):

Alcohol

Alcohol anhydrous

Denatured ethyl alcohol

Ethyl alcohol

Ethyl hydrate

Ethyl hydroxide

Methylcarbinol

FORMULA : C2H6O

参考資料 2

REGISTRY of TOXIC EFFECTS of CHEMICAL SUBSTANCES
アメリカ NIOSH 編集の化学物質の毒性データ総覧(RTECS)に記載の毒性データ

参考資料 2 -1

* RTECS(R) *

* Produced by : National Institute for Occupational Safety and Health *

* Provided by : Canadian Centre for Occupational Health and Safety *

***** Issue : 97-1 (February, 1997) *

*** CHEMICAL IDENTIFICATION ***

RTECS NUMBER : EM6540000
CHEMICAL NAME : 2-Butenedioic acid (Z)-, monoethyl ester, polymer with methoxyethane
CAS REGISTRY NUMBER : 25087-06-3
OTHER CAS REGISTRY NOS. : 50935-57-4
54578-90-4
LAST UPDATED : 9504
DATA ITEMS CITED : 2
MOLECULAR FORMULA : (C6-H8-O4.C3-H6-O)x
SYNONYMS/TRADE NAMES :
* Ethyl ester of pvm/MA copolymer

*** HEALTH HAZARD DATA ***

** ACUTE TOXICITY DATA **

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - rat
DOSE/DURATION : >25600 mg/kg
TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

JACTDZ Journal of the American College of Toxicology. (Mary Ann Liebert, Inc.,
1651 Third Ave., New York, NY 10128) V.1-12, 1982-1993. Discontinued.
Volume(issue)/page/year: 12(3),243,93

*** STATUS IN U.S. ***

EPA TSCA Section 8(b) CHEMICAL INVENTORY

*** END OF RECORD ***

參考資料 2 -2

* R T E C S(R) *

* Produced by : National Institute for Occupational Safety and Health *

* Provided by : Canadian Centre for Occupational Health and Safety *

***** Issue : 97-1 (February, 1997) *

*** CHEMICAL IDENTIFICATION ***

RTECS NUMBER : KQ6300000
CHEMICAL NAME : Ethyl alcohol
CAS REGISTRY NUMBER : 64-17-5
LAST UPDATED : 9610
DATA ITEMS CITED : 197
MOLECULAR FORMULA : C2-H6-O
MOLECULAR WEIGHT : 46.08
WISWESSER LINE NOTATION : Q2
COMPOUND DESCRIPTOR : Tumorigen
Mutagen
Reproductive Effector
Human
Primary Irritant

SYNONYMS/TRADE NAMES :

- * Alcohol
- * Alcohols, n.o.s. (UN1987) (DOT)
- * Alcohol, anhydrous
- * Alcohol dehydrated
- * Alcool ethylique
- * Alcool etilico
- * Alcohols, toxic, n.o.s. (UN1986) (DOT)
- * Alkohol
- * Alkoholu etylowego
- * Etanolo
- * Ethanol (DOT:OSHA)
- * Ethanol solutions (UN1170) (DOT)
- * Ethyl alcohol (ACGIH:DOT:OSHA)
- * Ethyl alcohol anhydrous
- * Ethyl alcohol solutions (UN1170) (DOT)
- * Ethyl hydrate
- * Ethyl hydroxide
- * Etylowy alkohol
- * Fermentation alcohol

- * Grain alcohol
- * Methylcarbinol
- * Molasses alcohol
- * Potato alcohol
- * Spirits of wine
- * Spirt
- * UN1170 (DOT)
- * UN1986 (DOT)
- * UN1987 (DOT)

*** HEALTH HAZARD DATA ***

** SKIN/EYE IRRITATION DATA **

TYPE OF TEST : Open irritation test
 ROUTE OF EXPOSURE : Administration onto the skin
 SPECIES OBSERVED : Rodent - rabbit
 DOSE/DURATION : 400 mg
 REACTION SEVERITY : Mild
 REFERENCE :

UCDS** Union Carbide Data Sheet. (Union Carbide Corp., 39 Old Ridgebury Rd., Danbury, CT 06817) Volume(issue)/page/year: 7/22/70

TYPE OF TEST : Standard Draize test
 ROUTE OF EXPOSURE : Administration onto the skin
 SPECIES OBSERVED : Rodent - rabbit
 DOSE/DURATION : 20 mg/24H
 REACTION SEVERITY : Moderate
 REFERENCE :

85JCAE "Prehled Prumyslove Toxikologie; Organicke Latky," Marhold, J., Prague, Czechoslovakia, Avicenum, 1986 Volume(issue)/page/year: -,189,86

TYPE OF TEST : Standard Draize test
 ROUTE OF EXPOSURE : Administration into the eye
 SPECIES OBSERVED : Rodent - rabbit
 DOSE/DURATION : 500 mg
 REACTION SEVERITY : Severe
 REFERENCE :

AJOPAA American Journal of Ophthalmology. (Ophthalmic Pub. Co., 435 N. Michigan Ave., Suite 1415, Chicago, IL 60611) Series 3: V.1- 1918-
 Volume(issue)/page/year: 29,1363,46

TYPE OF TEST : Standard Draize test
 ROUTE OF EXPOSURE : Administration into the eye
 SPECIES OBSERVED : Rodent - rabbit

DOSE/DURATION : 500 mg/24H

REACTION SEVERITY : Mild

REFERENCE :

85JCAE "Prehled Prumyslove Toxikologie; Organicke Latky," Marhold, J., Prague, Czechoslovakia, Avicenum, 1986 Volume(issue)/page/year: -,189,86

TYPE OF TEST : Rinsed with water

ROUTE OF EXPOSURE : Administration into the eye

SPECIES OBSERVED : Rodent - rabbit

DOSE/DURATION : 100 mg/4S

REACTION SEVERITY : Moderate

REFERENCE :

FCTOD7 Food and Chemical Toxicology. (Pergamon Press Inc., Maxwell House, Fairview Park, Elmsford, NY 10523) V.20- 1982- Volume(issue)/page/year: 20,573,82

**** ACUTE TOXICITY DATA ****

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Human - man

DOSE/DURATION : 3371 uL/kg

TOXIC EFFECTS :

Behavioral - altered sleep time (including change in righting reflex)

Behavioral - excitement

Behavioral - coma

REFERENCE :

VHTODE Veterinary and Human Toxicology. (American College of Veterinary and Comparative Toxicology, Publication Office, Comparative Toxicology, Manhattan, KS 66506) V.19- 1977- Volume(issue)/page/year: 21,272,79

TYPE OF TEST : LDLo - Lowest published lethal dose

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Human - child

DOSE/DURATION : 2 gm/kg

TOXIC EFFECTS :

Lungs, Thorax, or Respiration - other changes

Liver - fatty liver degeneration

Blood - other changes

REFERENCE :

ATXKA8 Archiv fuer Toxikologie. (Berlin, Fed. Rep. Ger.) V.15-31, 1954-74. For publisher information, see ARTODN. Volume(issue)/page/year: 17,183,58

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Human - child
DOSE/DURATION : 14400 mg/kg/30M-I
TOXIC EFFECTS :

Behavioral - coma
Lungs, Thorax, or Respiration - dyspnea
Gastrointestinal - nausea or vomiting

REFERENCE :

APSVAM Acta Paediatrica Scandinavica. (Almqvist & Wiksell International, POB 4627, S-11691 Stockholm, Sweden) V.54-80 1965-91 For publisher information, see APAEEL Volume(issue)/page/year: 74,977,85

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Human - man
DOSE/DURATION : 700 mg/kg
TOXIC EFFECTS :

Behavioral - changes in psychophysiological tests

REFERENCE :

NTOTDY Neurobehavioral Toxicology and Teratology. (Fayetteville, NY) V.3-8, 1981-86. For publisher information, see NETEEC. Volume(issue)/page/year: 8,77,86

TYPE OF TEST : LDLo - Lowest published lethal dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Human
DOSE/DURATION : 1400 mg/kg
TOXIC EFFECTS :

Behavioral - sleep
Behavioral - headache
Gastrointestinal - nausea or vomiting

REFERENCE :

NPIRI* Raw Material Data Handbook, Vol.1: Organic Solvents, 1974. (National Assoc. of Printing Ink Research Institute, Francis McDonald Sinclair Memorial Laboratory, Lehigh Univ., Bethlehem, PA 18015) Volume(issue)/page/year: 1,44,74

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Human - man
DOSE/DURATION : 50 mg/kg
TOXIC EFFECTS :

Gastrointestinal - alteration in gastric secretion
Gastrointestinal - other changes

REFERENCE :

JPETAB Journal of Pharmacology and Experimental Therapeutics. (Williams & Wilkins Co., 428 E. Preston St., Baltimore, MD 21202) V.1- 1909/10- Volume(issue)/page/year: 56,117,36

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Human - man
DOSE/DURATION : 1430 ug/kg

TOXIC EFFECTS :

Behavioral - change in motor activity (specific assay)
Behavioral - ataxia
Behavioral - antipsychotic

REFERENCE :

JPETAB Journal of Pharmacology and Experimental Therapeutics. (Williams & Wilkins Co., 428 E. Preston St., Baltimore, MD 21202) V.1- 1909/10- Volume(issue)/page/year: 197,488,76

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Human - woman
DOSE/DURATION : 256 gm/kg/12W

TOXIC EFFECTS :

Behavioral - hallucinations, distorted perceptions
Endocrine - effect on menstrual cycle

REFERENCE :

JAMAAP JAMA, Journal of the American Medical Association. (AMA, 535 N. Dearborn St., Chicago, IL 60610) V.1- 1883- Volume(issue)/page/year: 238,2143,77

TYPE OF TEST : LDLo - Lowest published lethal dose
ROUTE OF EXPOSURE : Subcutaneous
SPECIES OBSERVED : Human - infant
DOSE/DURATION : 19440 mg/kg

TOXIC EFFECTS :

Behavioral - convulsions or effect on seizure threshold
Behavioral - coma
Nutritional and Gross Metabolic - body temperature decrease

REFERENCE :

AJCPAI American Journal of Clinical Pathology. (Lippincott/Harper, Journal Fulfillment Dept., 2350 Virginia Ave., Hagerstown, MD 21740) V.1- 1931- Volume(issue)/page/year: 5,466,35

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - rat
DOSE/DURATION : 7060 mg/kg

TOXIC EFFECTS :

Lungs, Thorax, or Respiration - other changes

REFERENCE :

TXAPA9 Toxicology and Applied Pharmacology. (Academic Press, Inc., 1 E. First St., Duluth, MN 55802) V.1- 1959- Volume(issue)/page/year: 16,718,70

TYPE OF TEST : LC50 - Lethal concentration, 50 percent kill

ROUTE OF EXPOSURE : Inhalation

SPECIES OBSERVED : Rodent - rat

DOSE/DURATION : 20000 ppm/10H

TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

NPIRI* Raw Material Data Handbook, Vol.1: Organic Solvents, 1974. (National Assoc. of Printing Ink Research Institute, Francis McDonald Sinclair Memorial Laboratory, Lehigh Univ., Bethlehem, PA 18015) Volume(issue)/page/year: 1,44,74

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill

ROUTE OF EXPOSURE : Intraperitoneal

SPECIES OBSERVED : Rodent - rat

DOSE/DURATION : 3600 ug/kg

TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

PHMGBN Pharmacology: International Journal of Experimental and Clinical Pharmacology. (S. Karger AG, Postfach CH-4009 Basel, Switzerland) V.1- 1968- Volume(issue)/page/year: 2,27,69

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill

ROUTE OF EXPOSURE : Intravenous

SPECIES OBSERVED : Rodent - rat

DOSE/DURATION : 1440 mg/kg

TOXIC EFFECTS :

Lungs, Thorax, or Respiration - dyspnea

REFERENCE :

TXAPA9 Toxicology and Applied Pharmacology. (Academic Press, Inc., 1 E. First St., Duluth, MN 55802) V.1- 1959- Volume(issue)/page/year: 18,60,71

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill

ROUTE OF EXPOSURE : Intraarterial

SPECIES OBSERVED : Rodent - rat

DOSE/DURATION : 11 mg/kg

TOXIC EFFECTS :

Lungs, Thorax, or Respiration - chronic pulmonary edema

Lungs, Thorax, or Respiration - dyspnea

REFERENCE :

TXAPA9 Toxicology and Applied Pharmacology. (Academic Press, Inc., 1 E. First St.,

Duluth, MN 55802) V.1- 1959- Volume(issue)/page/year: 18,60,71

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Rodent - mouse

DOSE/DURATION : 3450 mg/kg

TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

GISAAA Gigiena i Sanitariya. For English translation, see HYSAAV. (V/O Mezhdunarodnaya Kniga, 113095 Moscow, USSR) V.1- 1936- Volume(issue)/page/year: 32(3),31,67

TYPE OF TEST : LC50 - Lethal concentration, 50 percent kill

ROUTE OF EXPOSURE : Inhalation

SPECIES OBSERVED : Rodent - mouse

DOSE/DURATION : 39 gm/m³/4H

TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

GTPZAB Gigiena Truda i Professional'nye Zabolevaniya. Labor Hygiene and Occupational Diseases. (V/O Mezhdunarodnaya Kniga, 113095 Moscow, USSR) V.1- 1957- Volume(issue)/page/year: 26(8),53,82

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill

ROUTE OF EXPOSURE : Intraperitoneal

SPECIES OBSERVED : Rodent - mouse

DOSE/DURATION : 528 mg/kg

TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

STRAAA Strahlentherapie. (Urban & Schwarzenberg, Postfach 202440, D-8000 Munich 2, Fed. Rep. Ger.) V.1- 1912- Volume(issue)/page/year: 127,245,65

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill

ROUTE OF EXPOSURE : Subcutaneous

SPECIES OBSERVED : Rodent - mouse

DOSE/DURATION : 8285 mg/kg

TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

FAONAU FAO Nutrition Meetings Report Series. (Rome, Italy) No.?-57, 1948-77. Discontinued. Volume(issue)/page/year: 48A,99,70

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill

ROUTE OF EXPOSURE : Intravenous
SPECIES OBSERVED : Rodent - mouse
DOSE/DURATION : 1973 mg/kg
TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

HBTXAC "Handbook of Toxicology," 4 vols., Philadelphia, W.B. Saunders Co., 1956-59 Volume(issue)/page/year: 1,128,55

TYPE OF TEST : LDLo - Lowest published lethal dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Mammal - dog
DOSE/DURATION : 5500 mg/kg
TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

HBTXAC "Handbook of Toxicology," 4 vols., Philadelphia, W.B. Saunders Co., 1956-59 Volume(issue)/page/year: 1,130,55

TYPE OF TEST : LDLo - Lowest published lethal dose
ROUTE OF EXPOSURE : Intraperitoneal
SPECIES OBSERVED : Mammal - dog
DOSE/DURATION : 3 gm/kg
TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

BJIMAG British Journal of Industrial Medicine. (British Medical Journal, Box 560B, Kennebunkport, ME 04046) V.1- 1944- Volume(issue)/page/year: 1,207,44

TYPE OF TEST : LDLo - Lowest published lethal dose
ROUTE OF EXPOSURE : Subcutaneous
SPECIES OBSERVED : Mammal - dog
DOSE/DURATION : 6 gm/kg
TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

HBTXAC "Handbook of Toxicology," 4 vols., Philadelphia, W.B. Saunders Co., 1956-59 Volume(issue)/page/year: 1,130,55

TYPE OF TEST : LDLo - Lowest published lethal dose
ROUTE OF EXPOSURE : Intravenous
SPECIES OBSERVED : Mammal - dog
DOSE/DURATION : 1600 mg/kg
TOXIC EFFECTS :

Behavioral - ataxia

Lungs, Thorax, or Respiration - dyspnea
Gastrointestinal - hypermotility, diarrhea

REFERENCE :

TXAPA9 Toxicology and Applied Pharmacology. (Academic Press, Inc., 1 E. First St., Duluth, MN 55802) V.1- 1959- Volume(issue)/page/year: 18,60,71

TYPE OF TEST : LDLo - Lowest published lethal dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Mammal - cat
DOSE/DURATION : 6 gm/kg
TOXIC EFFECTS :

Gastrointestinal - gastritis
Liver - hepatitis (hepatocellular necrosis), diffuse
Kidney, Ureter, Bladder - interstitial nephritis

REFERENCE :

JPETAB Journal of Pharmacology and Experimental Therapeutics. (Williams & Wilkins Co., 428 E. Preston St., Baltimore, MD 21202) V.1- 1909/10- Volume(issue)/page/year: 56,117,36

TYPE OF TEST : LDLo - Lowest published lethal dose
ROUTE OF EXPOSURE : Intravenous
SPECIES OBSERVED : Mammal - cat
DOSE/DURATION : 3945 mg/kg
TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

HBTXAC "Handbook of Toxicology," 4 vols., Philadelphia, W.B. Saunders Co., 1956-59 Volume(issue)/page/year: 1,130,55

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - rabbit
DOSE/DURATION : 6300 mg/kg
TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

HBTXAC "Handbook of Toxicology," 4 vols., Philadelphia, W.B. Saunders Co., 1956-59 Volume(issue)/page/year: 1,130,55

TYPE OF TEST : LDLo - Lowest published lethal dose
ROUTE OF EXPOSURE : Administration onto the skin
SPECIES OBSERVED : Rodent - rabbit
DOSE/DURATION : 20 gm/kg
TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

31ZTAS "Alcohols: Their Chemistry, Properties and Manufacture," Monick, J.A.,
New York, Reinhold Book, 1968 Volume(issue)/page/year: -,72,68

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill
ROUTE OF EXPOSURE : Intraperitoneal
SPECIES OBSERVED : Rodent - rabbit
DOSE/DURATION : 963 mg/kg
TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

EVHPAZ EHP, Environmental Health Perspectives. (U.S. Government Printing Office,
Supt of Documents, Washington, DC 20402) No.1- 1972- Volume(issue)/page/year:
61,321,85

TYPE OF TEST : LDLo - Lowest published lethal dose
ROUTE OF EXPOSURE : Subcutaneous
SPECIES OBSERVED : Rodent - rabbit
DOSE/DURATION : 20 gm/kg
TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

YAKUD5 Gekkan Yakuji. Pharmaceuticals Monthly. (Yakugyo Jihosha, Inaoka
Bldg., 2-36 Jinbo-cho, Kanda, Chiyoda-ku, Tokyo 101, Japan) V.1- 1959-
Volume(issue)/page/year: 22,651,80

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill
ROUTE OF EXPOSURE : Intravenous
SPECIES OBSERVED : Rodent - rabbit
DOSE/DURATION : 2374 mg/kg
TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

EVHPAZ EHP, Environmental Health Perspectives. (U.S. Government Printing Office,
Supt of Documents, Washington, DC 20402) No.1- 1972- Volume(issue)/page/year:
61,321,85

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - guinea pig
DOSE/DURATION : 5560 mg/kg
TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

JIH TAB Journal of Industrial Hygiene and Toxicology. (Cambridge, MA) V.18-31,

1936-49. For publisher information, see AEHLAU. Volume(issue)/page/year: 23,259,41

TYPE OF TEST : LCLo - Lowest published lethal concentration

ROUTE OF EXPOSURE : Inhalation

SPECIES OBSERVED : Rodent - guinea pig

DOSE/DURATION : 21900 ppm

TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

FAONAU FAO Nutrition Meetings Report Series. (Rome, Italy) No.-57, 1948-77.
Discontinued. Volume(issue)/page/year: 48A,99,70

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill

ROUTE OF EXPOSURE : Intraperitoneal

SPECIES OBSERVED : Rodent - guinea pig

DOSE/DURATION : 3414 mg/kg

TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

EVHPAZ EHP, Environmental Health Perspectives. (U.S. Government Printing Office,
Supt of Documents, Washington, DC 20402) No.1- 1972- Volume(issue)/page/year:
61,321,85

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill

ROUTE OF EXPOSURE : Intraperitoneal

SPECIES OBSERVED : Rodent - hamster

DOSE/DURATION : 5068 mg/kg

TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

EVHPAZ EHP, Environmental Health Perspectives. (U.S. Government Printing Office,
Supt of Documents, Washington, DC 20402) No.1- 1972- Volume(issue)/page/year:
61,321,85

TYPE OF TEST : LDLo - Lowest published lethal dose

ROUTE OF EXPOSURE : Subcutaneous

SPECIES OBSERVED : Bird - pigeon

DOSE/DURATION : 5 gm/kg

TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

FDWU** "Ueber die Wirkung Verschiedener Gifte Auf Vogel, Dissertation,"
Forchheimer, L., Pharmakologischen Institut der Universitat Wurzburg, Fed. Rep. Ger.,
1931 Volume(issue)/page/year: -, -,31

TYPE OF TEST : LDLo - Lowest published lethal dose
ROUTE OF EXPOSURE : Subcutaneous
SPECIES OBSERVED : Bird - chicken
DOSE/DURATION : 5 gm/kg

TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

FDWU** "Ueber die Wirkung Verschiedener Gifte Auf Vogel, Dissertation,"
Forchheimer, L., Pharmakologischen Institut der Universitat Wurzburg, Fed. Rep. Ger.,
1931 Volume(issue)/page/year: -, -, 31

TYPE OF TEST : LDLo - Lowest published lethal dose
ROUTE OF EXPOSURE : Intravenous
SPECIES OBSERVED : Bird - chicken
DOSE/DURATION : 8216 mg/kg

TOXIC EFFECTS :

Vascular - other changes

REFERENCE :

JPETAB Journal of Pharmacology and Experimental Therapeutics. (Williams &
Wilkins Co., 428 E. Preston St., Baltimore, MD 21202) V.1- 1909/10-
Volume(issue)/page/year: 60, 312, 37

TYPE OF TEST : LDLo - Lowest published lethal dose
ROUTE OF EXPOSURE : Subcutaneous
SPECIES OBSERVED : Amphibian - frog
DOSE/DURATION : 7100 mg/kg

TOXIC EFFECTS :

Details of toxic effects not reported other than lethal dose value

REFERENCE :

HBTXAC "Handbook of Toxicology," 4 vols., Philadelphia, W.B. Saunders Co., 1956-
59 Volume(issue)/page/year: 1, 128, 55

TYPE OF TEST : LDLo - Lowest published lethal dose
ROUTE OF EXPOSURE : Parenteral
SPECIES OBSERVED : Amphibian - frog
DOSE/DURATION : 36 gm/kg

TOXIC EFFECTS :

Peripheral Nerve and Sensation - spastic paralysis with or without sensory change

Behavioral - somnolence (general depressed activity)

REFERENCE :

AIPTAK Archives Internationales de Pharmacodynamie et de Therapie. (Heymans
Institute of Pharmacology, De Pintelaan 185, B-9000 Ghent, Belgium) V.4- 1898-
Volume(issue)/page/year: 50, 296, 35

TYPE OF TEST : LD50 - Lethal dose, 50 percent kill

ROUTE OF EXPOSURE : Intraperitoneal
SPECIES OBSERVED : Mammal - species unspecified
DOSE/DURATION : 4300 mg/kg
TOXIC EFFECTS :

Behavioral - somnolence (general depressed activity)
Behavioral - convulsions or effect on seizure threshold
Behavioral - change in motor activity (specific assay)

REFERENCE :

TXAPA9 Toxicology and Applied Pharmacology. (Academic Press, Inc., 1 E. First St., Duluth, MN 55802) V.1- 1959- Volume(issue)/page/year: 13,358,68

** OTHER MULTIPLE DOSE TOXICITY DATA **

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - rat
DOSE/DURATION : 1825 gm/kg/1Y-C
TOXIC EFFECTS :

Liver - fatty liver degeneration
Liver - changes in liver weight
Nutritional and Gross Metabolic - weight loss or decreased weight gain

REFERENCE :

DDSCDJ Digestive Diseases and Sciences. (Plenum Pub. Corp., 233 Spring St., New York, NY 10013) V.24- 1979- Volume(issue)/page/year: 25,587,80

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - rat
DOSE/DURATION : 19 gm/kg/21D-C
TOXIC EFFECTS :

Biochemical - Enzyme inhibition, induction, or change in blood or tissue levels - hepatic microsomal mixed oxidase (dealkylation, hydroxylation, etc.)

REFERENCE :

TOLED5 Toxicology Letters. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1977- Volume(issue)/page/year: 12,265,82

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - rat
DOSE/DURATION : 280 gm/kg/5W-I
TOXIC EFFECTS :

Cardiac - changes in heart weight
Blood - changes in serum composition (TP, bilirubin, cholesterol)
Related to Chronic Data - changes in testicular weight

REFERENCE :

JTSCDR Journal of Toxicological Sciences. (Japanese Soc. of Toxicological Sciences,
4th Floor, Gakkai Center Bldg., 4-16, Yayoi 2-chome, Bunkyo-ku, Tokyo 113, Japan)
V.1- 1976- Volume(issue)/page/year: 8,243,83

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - rat
DOSE/DURATION : 851 gm/kg/10W-C
TOXIC EFFECTS :

Biochemical - Enzyme inhibition, induction, or change in blood or tissue levels -
hepatic microsomal mixed oxidase (dealkylation, hydroxylation, etc.)

Biochemical - Enzyme inhibition, induction, or change in blood or tissue levels -
dehydrogenases

REFERENCE :

APTOA6 Acta Pharmacologica et Toxicologica. (Copenhagen, Denmark) V.1-59,
1945-86. For publisher information, see APTSAI. Volume(issue)/page/year: 38,260,76

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Primate - monkey
DOSE/DURATION : 210 gm/kg/5W-I
TOXIC EFFECTS :

Liver - fatty liver degeneration

REFERENCE :

JTSCDR Journal of Toxicological Sciences. (Japanese Soc. of Toxicological Sciences,
4th Floor, Gakkai Center Bldg., 4-16, Yayoi 2-chome, Bunkyo-ku, Tokyo 113, Japan)
V.1- 1976- Volume(issue)/page/year: 8,243,83

**** TUMORIGENIC DATA ****

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - mouse
DOSE/DURATION : 320 mg/kg/50W-I
TOXIC EFFECTS :

Tumorigenic - equivocal tumorigenic agent by RTECS criteria

Liver - tumors

Blood - lymphomas including Hodgkin's disease

REFERENCE :

CALEDQ Cancer Letters (Shannon, Ireland). (Elsevier Scientific Pub. Ireland Ltd.,
POB 85, Limerick, Ireland) V.1- 1975- Volume(issue)/page/year: 13,345,81

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Rectal
SPECIES OBSERVED : Rodent - mouse

DOSE/DURATION : 120 gm/kg/18W-I

TOXIC EFFECTS :

Tumorigenic - equivocal tumorigenic agent by RTECS criteria

Gastrointestinal - tumors

Liver - tumors

REFERENCE :

ZIETA2 Zeitschrift fuer Immunitaetsforschung und Experimentelle Therapie. (Stuttgart, Fed. Rep. Ger.) 1924-62. For publisher information, see ZIEKBA.

Volume(issue)/page/year: 59,203,28

TYPE OF TEST : TD - Toxic dose (other than lowest)

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Rodent - mouse

DOSE/DURATION : 400 gm/kg/57W-I

TOXIC EFFECTS :

Tumorigenic - equivocal tumorigenic agent by RTECS criteria

Gastrointestinal - tumors

REFERENCE :

ZIETA2 Zeitschrift fuer Immunitaetsforschung und Experimentelle Therapie. (Stuttgart, Fed. Rep. Ger.) 1924-62. For publisher information, see ZIEKBA.

Volume(issue)/page/year: 59,203,28

** REPRODUCTIVE DATA **

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Human - woman

DOSE : 41 gm/kg

SEX/DURATION : female 41 week(s) after conception

TOXIC EFFECTS :

Reproductive - Effects on Newborn - Apgar score (human only)

Reproductive - Effects on Newborn - other neonatal measures or effects

Reproductive - Effects on Newborn - drug dependence

REFERENCE :

AJDCAI American Journal of Diseases of Children. (AMA, 535 N. Dearborn St., Chicago, IL 60610) V.1-80(3), 1911-50; V.100- 1960- Volume(issue)/page/year: 129,1075,75

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Human - woman

DOSE : 250 mg/kg

SEX/DURATION : female 37 week(s) after conception

TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - other effects to embryo

REFERENCE :

AJOGAH American Journal of Obstetrics and Gynecology. (C.V. Mosby Co., 11830 Westline Industrial Dr., St. Louis, MO 63146) V.1- 1920- Volume(issue)/page/year: 145,251,83

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Intravenous

SPECIES OBSERVED : Human - woman

DOSE : 8 gm/kg

SEX/DURATION : female 32 week(s) after conception

TOXIC EFFECTS :

Reproductive - Effects on Newborn - Apgar score (human only)

Reproductive - Effects on Newborn - other neonatal measures or effects

REFERENCE :

AJDCAI American Journal of Diseases of Children. (AMA, 535 N. Dearborn St., Chicago, IL 60610) V.1-80(3), 1911-50; V.100- 1960- Volume(issue)/page/year: 134,419,80

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Intrauterine

SPECIES OBSERVED : Human - woman

DOSE : 200 mg/kg

SEX/DURATION : female 5 day(s) pre-mating

TOXIC EFFECTS :

Reproductive - Fertility - female fertility index (e.g. # females pregnant per # sperm positive females; # females pregnant per # females mated)

REFERENCE :

INJFA3 International Journal of Fertility. (Allen Press, 1041 New Hampshire, St., Lawrence, KS 66044) V.1- 1955- Volume(issue)/page/year: 14,280,69

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Rodent - rat

DOSE : 4 gm/kg

SEX/DURATION : female 13 day(s) after conception

TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - cytological changes (including somatic cell genetic material)

REFERENCE :

CYGEDX Cytology and Genetics (English Translation). Translation of TGANAK. (Allerton Press Inc., 150 Fifth Ave., New York, NY 10011) V.8- 1974- Volume(issue)/page/year: 15(2),23,81

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Rodent - rat
DOSE : 322 gm/kg
SEX/DURATION : male 35 day(s) pre-mating
TOXIC EFFECTS :

Reproductive - Paternal Effects - spermatogenesis (incl. genetic material, sperm morphology, motility, and count)

Reproductive - Paternal Effects - testes, epididymis, sperm duct

REFERENCE :

INJFA3 International Journal of Fertility. (Allen Press, 1041 New Hampshire, St., Lawrence, KS 66044) V.1- 1955- Volume(issue)/page/year: 23,176,78

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - rat
DOSE : 12 gm/kg
SEX/DURATION : female 9-12 day(s) after conception
TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus)

REFERENCE :

PLPSAX Physiological Psychology. (Austin, TX) V.1-14, 1973-86.
Volume(issue)/page/year: 7,311,79

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - rat
DOSE : 132 gm/kg
SEX/DURATION : female 1-22 day(s) after conception
TOXIC EFFECTS :

Reproductive - Maternal Effects - parturition

Reproductive - Effects on Newborn - growth statistics (e.g.%, reduced weight gain)

Reproductive - Effects on Newborn - behavioral

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 23,217,81

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - rat
DOSE : 24 gm/kg
SEX/DURATION : female 14-16 day(s) after conception
TOXIC EFFECTS :

Reproductive - Specific Developmental Abnormalities - Central Nervous System

Reproductive - Specific Developmental Abnormalities - other developmental

abnormalities

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 23,41A,81

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - rat
DOSE : 354 gm/kg
SEX/DURATION : lactating female 10 day(s) post-birth

TOXIC EFFECTS :

Reproductive - Effects on Newborn - biochemical and metabolic

REFERENCE :

RCPBDC Research Communications in Psychology, Psychiatry and Behavior. (PJD Pub. Ltd., P.O. Box 966, Westbury, NY 11590) V.1- 1976- Volume(issue)/page/year:
2,119,77

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - rat
DOSE : 4 gm/kg
SEX/DURATION : female 6-15 day(s) after conception

TOXIC EFFECTS :

Reproductive - Specific Developmental Abnormalities - eye/ear

Reproductive - Specific Developmental Abnormalities - urogenital system

REFERENCE :

JTEHD6 Journal of Toxicology and Environmental Health. (Hemisphere Pub., 1025 Vermont Ave., NW, Washington, DC 20005) V.1- 1975/76-
Volume(issue)/page/year: 10,267,82

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - rat
DOSE : 35295 mg/kg
SEX/DURATION : female 1-15 day(s) after conception

TOXIC EFFECTS :

Reproductive - Fertility - female fertility index (e.g. # females pregnant per # sperm positive females; # females pregnant per # females mated)

Reproductive - Fertility - pre-implantation mortality (e.g. reduction in number of implants per female; total number of implants per corpora lutea)

Reproductive - Fertility - post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants)

REFERENCE :

ONGZAC Ontogenez (Moscow). For English translation, see SJDBA9. (V/O

Mezhdunarodnaya Kniga, 113095, Moscow, USSR) V.1- 1970- Volume(issue)/page/year:
22(1),71,91

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - rat
DOSE : 44 gm/kg
SEX/DURATION : female 7-17 day(s) after conception
TOXIC EFFECTS :

Reproductive - Specific Developmental Abnormalities - musculoskeletal system
Reproductive - Specific Developmental Abnormalities - urogenital system

REFERENCE :

ESKHA5 Eisei Shikenjo Hokoku. Bulletin of the Institute of Hygienic Sciences.
(Kokuritsu Eisei Shikenjo Kagaku, 18-1 Bushitsu Johobu, Setagaya-ku, Tokyo 158, Japan)
V.1- 1886- Volume(issue)/page/year: (103),10,85

TYPE OF TEST : TCLo - Lowest published toxic concentration
ROUTE OF EXPOSURE : Inhalation
SPECIES OBSERVED : Rodent - rat
DOSE : 20000 ppm/7H
SEX/DURATION : female 1-22 day(s) after conception
TOXIC EFFECTS :

Reproductive - Specific Developmental Abnormalities - other developmental
abnormalities

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R.
Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 29(2),48A,84

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Intraperitoneal
SPECIES OBSERVED : Rodent - rat
DOSE : 15 gm/kg
SEX/DURATION : female 8-13 day(s) after conception
TOXIC EFFECTS :

Reproductive - Effects on Newborn - behavioral
Reproductive - Effects on Newborn - physical

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R.
Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 36,31A,87

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Intraperitoneal
SPECIES OBSERVED : Rodent - rat

DOSE : 2240 mg/kg
SEX/DURATION : female 9-12 day(s) after conception
TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - extra-embryonic structures (e.g., placenta, umbilical cord)

REFERENCE :

DABBBA Dissertation Abstracts International, B: The Sciences and Engineering.
(University Microfilms International, 300 N. Zeeb Rd., Ann Arbor, MI 48106) V.30-
1969- Volume(issue)/page/year: 38,5835,78

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Intraperitoneal
SPECIES OBSERVED : Rodent - rat
DOSE : 600 mg/kg
SEX/DURATION : female 8-15 day(s) after conception
TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus)

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 26(1),12A,82

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Intraperitoneal
SPECIES OBSERVED : Rodent - rat
DOSE : 600 mg/kg
SEX/DURATION : female 8-15 day(s) after conception
TOXIC EFFECTS :

Reproductive - Fertility - post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants)

Reproductive - Effects on Embryo or Fetus - extra-embryonic structures (e.g., placenta, umbilical cord)

Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus)

REFERENCE :

IJEBA6 Indian Journal of Experimental Biology. (Publications & Information Directorate, CSIR, Hillside Rd., New Delhi 110 012, India) V.1- 1963-
Volume(issue)/page/year: 21,108,83

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Intraperitoneal
SPECIES OBSERVED : Rodent - rat
DOSE : 600 mg/kg
SEX/DURATION : female 8-15 day(s) after conception

TOXIC EFFECTS :

Reproductive - Specific Developmental Abnormalities - craniofacial (including nose and tongue)

Reproductive - Specific Developmental Abnormalities - musculoskeletal system

REFERENCE :

IJEBA6 Indian Journal of Experimental Biology. (Publications & Information Directorate, CSIR, Hillside Rd., New Delhi 110 012, India) V.1- 1963- Volume(issue)/page/year: 21,108,83

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Intravenous

SPECIES OBSERVED : Rodent - rat

DOSE : 4 gm/kg

SEX/DURATION : female 6-7 day(s) after conception

TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - extra-embryonic structures (e.g., placenta, umbilical cord)

Reproductive - Effects on Embryo or Fetus - other effects to embryo

Reproductive - Specific Developmental Abnormalities - musculoskeletal system

REFERENCE :

RECYAR Revue Roumaine d'Embryologie et de Cytologia, Serie d'Embriologie. (Bucharest, Romania) V.1-8, 1964-71. Volume(issue)/page/year: 8,105,71

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Intravenous

SPECIES OBSERVED : Rodent - rat

DOSE : 3 gm/kg

SEX/DURATION : female 6-7 day(s) after conception

TOXIC EFFECTS :

Reproductive - Fertility - post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants)

REFERENCE :

RECYAR Revue Roumaine d'Embryologie et de Cytologia, Serie d'Embriologie. (Bucharest, Romania) V.1-8, 1964-71. Volume(issue)/page/year: 8,105,71

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Intravenous

SPECIES OBSERVED : Rodent - rat

DOSE : 4 gm/kg

SEX/DURATION : female 6-7 day(s) after conception

TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus)

Reproductive - Specific Developmental Abnormalities - musculoskeletal system

Reproductive - Specific Developmental Abnormalities - other developmental

abnormalities

REFERENCE :

RECYAR Revue Roumaine d'Embryologie et de Cytologia, Serie d'Embriologie.
(Bucharest, Romania) V.1-8, 1964-71. Volume(issue)/page/year: 8,105,71

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Intracerebral

SPECIES OBSERVED : Rodent - rat

DOSE : 5 mg/kg

SEX/DURATION : female 1 day(s) pre-mating

TOXIC EFFECTS :

Reproductive - Fertility - other measures of fertility

REFERENCE :

JRPFA4 Journal of Reproduction and Fertility. (Biochemical Soc. Book Depot, POB
32, Commerce Way, Colchester, Essex CO2 8HP, UK) V.1- 1960-
Volume(issue)/page/year: 42,199,75

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Unreported

SPECIES OBSERVED : Rodent - rat

DOSE : 60 gm/kg

SEX/DURATION : female 9-14 day(s) after conception

TOXIC EFFECTS :

Reproductive - Fertility - post-implantation mortality (e.g. dead and/or resorbed
implants per total number of implants)

Reproductive - Effects on Embryo or Fetus - fetal death

REFERENCE :

FATOAO Farmakologiya i Toksikologiya (Moscow). For English translation, see
PHTXA6 and RPTOAN. (V/O Mezhdunarodnaya Kniga, 113095 Moscow, USSR) V.2-
1939- Volume(issue)/page/year: 45(1),83,82

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Intratesticular

SPECIES OBSERVED : Rodent - rat

DOSE : 400 mg/kg

SEX/DURATION : male 1 day(s) pre-mating

TOXIC EFFECTS :

Reproductive - Fertility - male fertility index (e.g. # males impregnating females per #
males exposed to fertile nonpregnant females)

REFERENCE :

FESTAS Fertility and Sterility. (American Fertility Soc., 608 13th Ave. S,
Birmingham, AL 35282) V.1- 1950- Volume(issue)/page/year: 24,884,73

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Intrauterine

SPECIES OBSERVED : Rodent - rat
DOSE : 2400 mg/kg
SEX/DURATION : female 10 day(s) after conception
TOXIC EFFECTS :

Reproductive - Fertility - post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants)

REFERENCE :

IJEBA6 Indian Journal of Experimental Biology. (Publications & Information Directorate, CSIR, Hillside Rd., New Delhi 110 012, India) V.1- 1963- Volume(issue)/page/year: 14,316,76

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Multiple routes
SPECIES OBSERVED : Rodent - rat
DOSE : 642 gm/kg
SEX/DURATION : female 1-21 day(s) after conception
lactating female 23 day(s) post-birth

TOXIC EFFECTS :

Reproductive - Maternal Effects - parturition

Reproductive - Effects on Newborn - weaning or lactation index (e.g., # alive at weaning per # alive at day 4)

Reproductive - Effects on Newborn - growth statistics (e.g.%, reduced weight gain)

REFERENCE :

DEPBA5 Developmental Psychobiology. (John Wiley & Sons, Inc., 605 Third Ave., New York, NY 10158) V.1- 1968- Volume(issue)/page/year: 10,435,77

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Multiple routes
SPECIES OBSERVED : Rodent - rat
DOSE : 373 gm/kg
SEX/DURATION : lactating female 23 day(s) post-birth

TOXIC EFFECTS :

Reproductive - Effects on Newborn - behavioral

Reproductive - Effects on Newborn - physical

REFERENCE :

DEPBA5 Developmental Psychobiology. (John Wiley & Sons, Inc., 605 Third Ave., New York, NY 10158) V.1- 1968- Volume(issue)/page/year: 10,435,77

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - mouse
DOSE : 162 gm/kg
SEX/DURATION : female 11-19 day(s) after conception

TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - extra-embryonic structures (e.g., placenta,

umbilical cord)

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 27,56A,83

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Rodent - mouse

DOSE : 21 gm/kg

SEX/DURATION : female 1-21 day(s) after conception

TOXIC EFFECTS :

Reproductive - Effects on Newborn - biochemical and metabolic

Reproductive - Effects on Newborn - behavioral

REFERENCE :

JSALDP Journal of Studies on Alcohol. (P.O. Box 969, Piscataway, NJ 08854) V.36-
1975- Volume(issue)/page/year: 38,1696,77

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Rodent - mouse

DOSE : 5800 mg/kg

SEX/DURATION : female 7 day(s) after conception

TOXIC EFFECTS :

Reproductive - Specific Developmental Abnormalities - Central Nervous System

Reproductive - Specific Developmental Abnormalities - eye/ear

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 27,231,83

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Rodent - mouse

DOSE : 75600 mg/kg

SEX/DURATION : female 5-11 day(s) after conception

TOXIC EFFECTS :

Reproductive - Specific Developmental Abnormalities - urogenital system

Reproductive - Effects on Newborn - live birth index (measured after birth)

Reproductive - Effects on Newborn - growth statistics (e.g.%, reduced weight gain)

REFERENCE :

RCOCB8 Research Communications in Chemical Pathology and Pharmacology. (PJD Pub. Ltd., P.O. Box 966, Westbury, NY 11590) V.1- 1970- Volume(issue)/page/year:
23,127,79

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - mouse
DOSE : 5500 mg/kg
SEX/DURATION : female 9 day(s) after conception
TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus)

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 24(1),53A,81

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - mouse
DOSE : 1680 gm/kg
SEX/DURATION : male 70 day(s) pre-mating
TOXIC EFFECTS :

Reproductive - Paternal Effects - spermatogenesis (incl. genetic material, sperm morphology, motility, and count)

REFERENCE :

FEFRA7 Federation Proceedings, Federation of American Societies for Experimental Biology. (Bethesda, MD) V.1-46, 1942-87. Volume(issue)/page/year: 39,542,80

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Intraperitoneal
SPECIES OBSERVED : Rodent - mouse
DOSE : 5800 mg/kg
SEX/DURATION : female 10 day(s) after conception
TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus)

Reproductive - Specific Developmental Abnormalities - musculoskeletal system

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 27,231,83

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Intraperitoneal
SPECIES OBSERVED : Rodent - mouse
DOSE : 5800 mg/kg
SEX/DURATION : female 7 day(s) after conception
TOXIC EFFECTS :

Reproductive - Specific Developmental Abnormalities - Central Nervous System
Reproductive - Specific Developmental Abnormalities - eye/ear
Reproductive - Specific Developmental Abnormalities - craniofacial (including nose and tongue)

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 27,231,83

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Intraperitoneal
SPECIES OBSERVED : Rodent - mouse
DOSE : 5622 ug/kg
SEX/DURATION : female 10 day(s) after conception
TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - fetal death
Reproductive - Specific Developmental Abnormalities - eye/ear
Reproductive - Specific Developmental Abnormalities - musculoskeletal system

REFERENCE :

AJOGAH American Journal of Obstetrics and Gynecology. (C.V. Mosby Co., 11830 Westline Industrial Dr., St. Louis, MO 63146) V.1- 1920- Volume(issue)/page/year: 124,676,76

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Intraperitoneal
SPECIES OBSERVED : Rodent - mouse
DOSE : 4 mg/kg
SEX/DURATION : female 10 day(s) after conception
TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - cytological changes (including somatic cell genetic material)

REFERENCE :

ANREAK Anatomical Record. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1906/08- Volume(issue)/page/year: 193,515,79

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Intraperitoneal
SPECIES OBSERVED : Rodent - mouse
DOSE : 4300 mg/kg
SEX/DURATION : female 10 day(s) after conception
TOXIC EFFECTS :

Reproductive - Fertility - post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants)

REFERENCE :

NETOD7 Neurobehavioral Toxicology. (Fayetteville, NY) V.1-2, 1979-80. For

publisher information, see NTOTDY. Volume(issue)/page/year: 2,227,80

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Mammal - dog
DOSE : 21600 mg/kg
SEX/DURATION : female 1-60 day(s) after conception
TOXIC EFFECTS :

Reproductive - Effects on Newborn - stillbirth
Reproductive - Effects on Newborn - live birth index (measured after birth)
Reproductive - Effects on Newborn - growth statistics (e.g.%, reduced weight gain)

REFERENCE :

FEFRA7 Federation Proceedings, Federation of American Societies for Experimental Biology. (Bethesda, MD) V.1-46, 1942-87. Volume(issue)/page/year: 36,285,77

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Mammal - dog
DOSE : 260 gm/kg
SEX/DURATION : female 1-62 day(s) after conception
TOXIC EFFECTS :

Reproductive - Effects on Newborn - viability index (e.g., # alive at day 4 per # born alive)

REFERENCE :

ACRSDM Alcoholism: Clinical and Experimental Research. (Williams & Wilkins Co., 428 E. Preston St., Baltimore, MD 21202) V.1- 1977- Volume(issue)/page/year: 4,123,80

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Mammal - dog
DOSE : 221 gm/kg
SEX/DURATION : female 1-47 day(s) after conception
TOXIC EFFECTS :

Reproductive - Fertility - abortion

REFERENCE :

ACRSDM Alcoholism: Clinical and Experimental Research. (Williams & Wilkins Co., 428 E. Preston St., Baltimore, MD 21202) V.1- 1977- Volume(issue)/page/year: 4,123,80

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Intratesticular
SPECIES OBSERVED : Mammal - dog
DOSE : 100 mg/kg
SEX/DURATION : male 1 day(s) pre-mating

TOXIC EFFECTS :

Reproductive - Paternal Effects - testes, epididymis, sperm duct

REFERENCE :

FESTAS Fertility and Sterility. (American Fertility Soc., 608 13th Ave. S, Birmingham, AL 35282) V.1- 1950- Volume(issue)/page/year: 24,884,73

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Primate - monkey
DOSE : 78 gm/kg
SEX/DURATION : female 4-23 week(s) after conception

TOXIC EFFECTS :

Reproductive - Fertility - abortion

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968- Volume(issue)/page/year: 35,345,87

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Primate - monkey
DOSE : 400 mg/kg
SEX/DURATION : female 2-21 week(s) after conception

TOXIC EFFECTS :

Reproductive - Effects on Newborn - growth statistics (e.g.%, reduced weight gain)

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968- Volume(issue)/page/year: 29,49,84

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Primate - monkey
DOSE : 206 gm/kg
SEX/DURATION : female 90 day(s) pre-mating

TOXIC EFFECTS :

Reproductive - Maternal Effects - menstrual cycle changes or disorders

REFERENCE :

SCIEAS Science. (American Assoc. for the Advancement of Science, 1333 H St., NW, Washington, DC 20005) V.1- 1895- Volume(issue)/page/year: 221,677,83

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Primate - monkey
DOSE : 32400 mg/kg

SEX/DURATION : female 2-19 week(s) after conception

TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus)

Reproductive - Specific Developmental Abnormalities - Central Nervous System

Reproductive - Specific Developmental Abnormalities - craniofacial (including nose and tongue)

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 44,29,91

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Primate - monkey

DOSE : 43200 mg/kg

SEX/DURATION : female 1-24 week(s) after conception

TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - extra-embryonic structures (e.g., placenta, umbilical cord)

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 44,29,91

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Rodent - rabbit

DOSE : 3945 mg/kg

SEX/DURATION : female 1 day(s) pre-mating

TOXIC EFFECTS :

Reproductive - Fertility - female fertility index (e.g. # females pregnant per # sperm positive females; # females pregnant per # females mated)

REFERENCE :

JOENAK Journal of Endocrinology. (Biochemical Soc. Book Depot, POB 32, Commerce Way, Colchester, Essex CO2 8HP, UK) V.1- 1939-
Volume(issue)/page/year: 34,275,66

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Oral

SPECIES OBSERVED : Rodent - rabbit

DOSE : 3750 mg/kg

SEX/DURATION : female 1 day(s) pre-mating

TOXIC EFFECTS :

Reproductive - Fertility - other measures of fertility

REFERENCE :

IJMRAQ Indian Journal of Medical Research. (Indian Council of Medical Research, Ansari Nagar, New Delhi 110 029, India) V.1- 1913- Volume(issue)/page/year: 58,501,70

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Intravenous
SPECIES OBSERVED : Rodent - rabbit
DOSE : 15 mg/kg
SEX/DURATION : female 15-29 day(s) after conception
TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus)

Reproductive - Effects on Embryo or Fetus - other effects to embryo

REFERENCE :

JPDSA3 Journal of Pediatric Surgery. (Grune and Stratton, Inc., Journal Subscription Dept., POB 6280, Duluth, MN 55806) V.1- 1966- Volume(issue)/page/year: 29,1030,94

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Mammal - pig
DOSE : 2648 gm/kg
SEX/DURATION : female 78 week(s) pre-mating
female 1-16 week(s) after conception

TOXIC EFFECTS :

Reproductive - Effects on Newborn - live birth index (measured after birth)

Reproductive - Effects on Newborn - growth statistics (e.g.%, reduced weight gain)

REFERENCE :

NTOTDY Neurobehavioral Toxicology and Teratology. (Fayetteville, NY) V.3-8, 1981-86. For publisher information, see NETEEC. Volume(issue)/page/year: 5,229,83

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Rodent - guinea pig
DOSE : 90 gm/kg
SEX/DURATION : female 1-68 day(s) after conception
TOXIC EFFECTS :

Reproductive - Effects on Newborn - growth statistics (e.g.%, reduced weight gain)

Reproductive - Effects on Newborn - behavioral

REFERENCE :

ANREAK Anatomical Record. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1906/08- Volume(issue)/page/year: 127,438,57

TYPE OF TEST : TDLo - Lowest published toxic dose

ROUTE OF EXPOSURE : Intravenous
SPECIES OBSERVED : Mammal - domestic
DOSE : 94 gm/kg
SEX/DURATION : female 14-21 week(s) after conception

TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus)

REFERENCE :

PBBHAU Pharmacology, Biochemistry and Behavior. (ANKHO International Inc., P.O. Box 426, Fayetteville, NY 13066) V.1- 1973- Volume(issue)/page/year: 12,329,80

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Intravenous
SPECIES OBSERVED : Mammal - domestic
DOSE : 40 gm/kg
SEX/DURATION : female 14-17 week(s) after conception

TOXIC EFFECTS :

Reproductive - Effects on Embryo or Fetus - fetotoxicity (except death, e.g., stunted fetus)

Reproductive - Effects on Newborn - biochemical and metabolic

REFERENCE :

NTOTDY Neurobehavioral Toxicology and Teratology. (Fayetteville, NY) V.3-8, 1981-86. For publisher information, see NETEEC. Volume(issue)/page/year: 3,105,81

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Intravenous
SPECIES OBSERVED : Mammal - domestic
DOSE : 1 gm/kg
SEX/DURATION : female 18 week(s) after conception

TOXIC EFFECTS :

Reproductive - Specific Developmental Abnormalities - respiratory system

REFERENCE :

AJOGAH American Journal of Obstetrics and Gynecology. (C.V. Mosby Co., 11830 Westline Industrial Dr., St. Louis, MO 63146) V.1- 1920- Volume(issue)/page/year: 151,859,85

TYPE OF TEST : TDLo - Lowest published toxic dose
ROUTE OF EXPOSURE : Oral
SPECIES OBSERVED : Mammal - species unspecified
DOSE : 31500 mg/kg
SEX/DURATION : female 15-35 day(s) after conception

TOXIC EFFECTS :

Reproductive - Specific Developmental Abnormalities - craniofacial (including nose and tongue)

REFERENCE :

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 30,203,84

** MUTATION DATA **

TYPE OF TEST : Mutation in microorganisms
TEST SYSTEM : Bacteria - Salmonella typhimurium
DOSE/DURATION : 11 pph
REFERENCE :

ENVRAL Environmental Research. (Academic Press, Inc., 1 E. First St., Duluth, MN 55802) V.1- 1967- Volume(issue)/page/year: 52,225,90

TYPE OF TEST : Mutation in microorganisms
TEST SYSTEM : Bacteria - Escherichia coli
DOSE/DURATION : 140 gm/L
REFERENCE :

MUREAV Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964- Volume(issue)/page/year: 130,97,84

TYPE OF TEST : DNA repair
TEST SYSTEM : Bacteria - Escherichia coli
DOSE/DURATION : 5 mg/well
REFERENCE :

MUREAV Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964- Volume(issue)/page/year: 133,161,84

TYPE OF TEST : Sex chromosome loss and nondisjunction
ROUTE OF EXPOSURE : Oral
TEST SYSTEM : Insect - Drosophila melanogaster
DOSE/DURATION : 10 pph
REFERENCE :

MUREAV Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964- Volume(issue)/page/year: 268,95,92

TYPE OF TEST : Mutation in microorganisms
TEST SYSTEM : Yeast - Saccharomyces cerevisiae
DOSE/DURATION : 24 pph
REFERENCE :

GNKAA5 Genetika (Moscow). For English translation, see SOGEBZ. (V/O Mezhdunarodnaya Kniga, 113095 Moscow, USSR) No.1- 1965-
Volume(issue)/page/year: 15,927,79

TYPE OF TEST : DNA damage
TEST SYSTEM : Yeast - Saccharomyces cerevisiae

DOSE/DURATION : 850 mmol/L

REFERENCE :

MUREAV Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964- Volume(issue)/page/year: 326,165,95

TYPE OF TEST : Mutation in microorganisms

TEST SYSTEM : Mold - Aspergillus nidulans

DOSE/DURATION : 20 pph

REFERENCE :

MUREAV Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964- Volume(issue)/page/year: 48,51,77

TYPE OF TEST : Gene conversion and mitotic recombination

TEST SYSTEM : Mold - Aspergillus nidulans

DOSE/DURATION : 5 pph

REFERENCE :

MUREAV Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964- Volume(issue)/page/year: 48,51,77

TYPE OF TEST : Sex chromosome loss and nondisjunction

TEST SYSTEM : Mold - Aspergillus nidulans

DOSE/DURATION : 30 gm/L

REFERENCE :

EVHPAZ EHP, Environmental Health Perspectives. (U.S. Government Printing Office, Supt of Documents, Washington, DC 20402) No.1- 1972- Volume(issue)/page/year: 31,81,79

TYPE OF TEST : Cytogenetic analysis

ROUTE OF EXPOSURE : Parenteral

TEST SYSTEM : Insect - grasshopper

DOSE/DURATION : 500 mmol/L

REFERENCE :

NATWAY Naturwissenschaften. (Springer-Verlag, Heidelberger Platz 3, D-1000 Berlin 33, Fed. Rep. Ger.) V.1- 1913- Volume(issue)/page/year: 51,646,64

TYPE OF TEST : DNA inhibition

TEST SYSTEM : Human Lymphocyte

DOSE/DURATION : 220 mmol/L

REFERENCE :

PNASA6 Proceedings of the National Academy of Sciences of the United States of America. (National Academy of Sciences, Printing & Pub. Office, 2101 Constitution Ave., Washington, DC 20418) V.1- 1915- Volume(issue)/page/year: 79,1171,82

TYPE OF TEST : Cytogenetic analysis

TEST SYSTEM : Human Lymphocyte

DOSE/DURATION : 1160 gm/L

REFERENCE :

AEMBAP Advances in Experimental Medicine and Biology. (Plenum Pub. Corp., 233 Spring St., New York, NY 10013) V.1- 1967- Volume(issue)/page/year: 85A,25,77

TYPE OF TEST : Cytogenetic analysis

TEST SYSTEM : Human Fibroblast

DOSE/DURATION : 12000 ppm

REFERENCE :

ACYTAN Acta Cytologica. (Science Printers and Pub., Inc., 2 Jacklynn Ct., St. Louis, MO 63132) V.1- 1957- Volume(issue)/page/year: 16,41,72

TYPE OF TEST : Cytogenetic analysis

TEST SYSTEM : Human Leukocyte

DOSE/DURATION : 1 pph/72H (Continuous)

REFERENCE :

TSITAQ Tsitologiya. Cytology. (V/O Mezhdunarodnaya Kniga, 113095 Moscow, USSR) V.1- 1959- Volume(issue)/page/year: 20,421,78

TYPE OF TEST : Sister chromatid exchange

TEST SYSTEM : Human Lymphocyte

DOSE/DURATION : 500 ppm/72H (Continuous)

REFERENCE :

CGCGBR Cytogenetics and Cell Genetics. (S. Karger Pub., Inc., 79 Fifth Ave., New York, NY 10003) V.12- 1973- Volume(issue)/page/year: 27,66,80

TYPE OF TEST : DNA damage

ROUTE OF EXPOSURE : Oral

TEST SYSTEM : Rodent - rat

DOSE/DURATION : 4 gm/kg

REFERENCE :

MUREAV Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964- Volume(issue)/page/year: 345,191,95

TYPE OF TEST : Mutation test systems - not otherwise specified

ROUTE OF EXPOSURE : Intraperitoneal

TEST SYSTEM : Rodent - rat

DOSE/DURATION : 250 gm/kg/16D (Continuous)

REFERENCE :

CYTBAI Cytobios. (Faculty Press, 88 Regent St., Cambridge, UK) V.1- 1969- Volume(issue)/page/year: 56,195,88

TYPE OF TEST : Mutation test systems - not otherwise specified

ROUTE OF EXPOSURE : Oral

TEST SYSTEM : Rodent - rat

DOSE/DURATION : 3 gm/kg

REFERENCE :

APTOA6 Acta Pharmacologica et Toxicologica. (Copenhagen, Denmark) V.1-59, 1945-86. For publisher information, see APTSAI. Volume(issue)/page/year: 49,125,81

TYPE OF TEST : Cytogenetic analysis

ROUTE OF EXPOSURE : Oral

TEST SYSTEM : Rodent - rat

DOSE/DURATION : 2 gm/kg

REFERENCE :

TGANAK Tsitologiya i Genetika. Cytology and Genetics. For English translation, see CYGEDX. (V/O Mezhdunarodnaya Kniga, 113095 Moscow, USSR) V.1- 1967- Volume(issue)/page/year: 14(5),48,80

TYPE OF TEST : Micronucleus test

ROUTE OF EXPOSURE : Intraperitoneal

TEST SYSTEM : Rodent - mouse

DOSE/DURATION : 1240 mg/kg/2D

REFERENCE :

AEMBAP Advances in Experimental Medicine and Biology. (Plenum Pub. Corp., 233 Spring St., New York, NY 10013) V.1- 1967- Volume(issue)/page/year: 85A,25,77

TYPE OF TEST : Cytogenetic analysis

ROUTE OF EXPOSURE : Oral

TEST SYSTEM : Rodent - mouse

DOSE/DURATION : 40 gm/kg

REFERENCE :

NATUAS Nature. (Nature Subscription Dept., POB 1018, Manasquan, NJ 08736) V.1- 1869- Volume(issue)/page/year: 302,258,83

TYPE OF TEST : Sister chromatid exchange

ROUTE OF EXPOSURE : Oral

TEST SYSTEM : Rodent - mouse

DOSE/DURATION : 420 mg/kg/3W

REFERENCE :

MUREAV Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964- Volume(issue)/page/year: 68,291,79

TYPE OF TEST : Sex chromosome loss and nondisjunction

ROUTE OF EXPOSURE : Oral

TEST SYSTEM : Rodent - mouse

DOSE/DURATION : 5 gm/kg

REFERENCE :

CGCGBR Cytogenetics and Cell Genetics. (S. Karger Pub., Inc., 79 Fifth Ave., New York, NY 10003) V.12- 1973- Volume(issue)/page/year: 44,7,87

TYPE OF TEST : Dominant lethal test
ROUTE OF EXPOSURE : Oral
TEST SYSTEM : Rodent - mouse
DOSE/DURATION : 3720 mg/kg/3D
REFERENCE :

AEMBAP Advances in Experimental Medicine and Biology. (Plenum Pub. Corp., 233 Spring St., New York, NY 10013) V.1- 1967- Volume(issue)/page/year: 85A,25,77

TYPE OF TEST : Sperm Morphology
ROUTE OF EXPOSURE : Oral
TEST SYSTEM : Rodent - mouse
DOSE/DURATION : 1500 mg/kg/50D
REFERENCE :

MUREAV Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964- Volume(issue)/page/year: 65,229,79

TYPE OF TEST : Cytogenetic analysis
TEST SYSTEM : Rodent - hamster Ovary
DOSE/DURATION : 100 ppm
REFERENCE :

ENMUDM Environmental Mutagenesis. (New York, NY) V.1-9, 1979-87. For publisher information, see EMMUEG. Volume(issue)/page/year: 8(Suppl 6),72,86

TYPE OF TEST : Cytogenetic analysis
TEST SYSTEM : Rodent - hamster Embryo
DOSE/DURATION : 1 pph
REFERENCE :

MUTAEX Mutagenesis. (Oxford Univ. Press, Pinkhill House, Southfield Road, Eynsham, Oxford OX8 1JJ, UK)V.1-1986- Volume(issue)/page/year: 3,207,88

TYPE OF TEST : Cytogenetic analysis
TEST SYSTEM : Rodent - hamster Ovary
DOSE/DURATION : 160 mmol/L
REFERENCE :

BIZNAT Biologisches Zentralblatt. (VEB Georg Thieme, Postfach 946, Leipzig DDR-7010, Ger. Dem. Rep.) V.1- 1881- Volume(issue)/page/year: 106,169,87

TYPE OF TEST : Sister chromatid exchange
TEST SYSTEM : Rodent - hamster Ovary
DOSE/DURATION : 3900 mg/L
REFERENCE :

MUREAV Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964- Volume(issue)/page/year: 124,85,83

TYPE OF TEST : Micronucleus test
TEST SYSTEM : Mammal - dog Lymphocyte
DOSE/DURATION : 400 umol/L
REFERENCE :

NTIS** National Technical Information Service. (Springfield, VA 22161) Formerly U.S. Clearinghouse for Scientific & Technical Information. Volume(issue)/page/year: AD-A075-605

*** REVIEWS ***

ACGIH TLV-TWA 1000 ppm

85INA8 "Documentation of the Threshold Limit Values and Biological Exposure Indices," 5th ed., Cincinnati, OH, American Conference of Governmental Industrial Hygienists, Inc., 1986 Volume(issue)/page/year: 6,575,91

IARC Cancer Review:Animal Inadequate Evidence

IMEMDT IARC Monographs on the Evaluation of Carcinogenic Risk of Chemicals to Man. (WHO Publications Centre USA, 49 Sheridan Ave., Albany, NY 12210) V.1-1972- Volume(issue)/page/year: 44,35,88

TOXICOLOGY REVIEW

IRXPAT International Review of Experimental Pathology. (Academic Press, Inc., 1 E. First St., Duluth, MN 55802) V.1- 1962- Volume(issue)/page/year: 11,177,72

TOXICOLOGY REVIEW

AEMBAP Advances in Experimental Medicine and Biology. (Plenum Pub. Corp., 233 Spring St., New York, NY 10013) V.1- 1967- Volume(issue)/page/year: 56,291,75

TOXICOLOGY REVIEW

AICMA2 Archivos del Instituto de Cardiologia de Mexico. (Instituto de Cardiologia de Mexico, Juan Badiano No.1, 14080 Mexico City, Mexico) V.14- 1944- Volume(issue)/page/year: 44,874,74

TOXICOLOGY REVIEW

MAEPBU Methods and Achievements in Experimental Pathology. (S. Karger AG, Postfach, CH-4009, Basel, Switzerland) V.1- 1966- Volume(issue)/page/year: 6,81,72

TOXICOLOGY REVIEW

FCTXAV Food and Cosmetics Toxicology. (London, UK) V.1-19, 1963-81. For publisher information, see FCTOD7. Volume(issue)/page/year: 8,433,70

TOXICOLOGY REVIEW

CLCHAU Clinical Chemistry (Winston-Salem, NC). (American Assoc. for

Clinical Chemistry, 1725 K St., NW, Washington, DC 20006) V.1- 1955-
Volume(issue)/page/year: 19,361,73

TOXICOLOGY REVIEW

PAREAQ Pharmacological Reviews. (Williams & Wilkins, 428 E. Preston St.,
Baltimore, MD 21202) V.1- 1949- Volume(issue)/page/year: 4,1,52

TOXICOLOGY REVIEW

FNSCA6 Forensic Science. (Lausanne, Switzerland) V.1-11, 1972-78. For pub
lisher information, see FSINDR. Volume(issue)/page/year: 2,67,73

TOXICOLOGY REVIEW

SCIEAS Science. (American Assoc. for the Advancement of Science, 1333 H St.,
NW, Washington, DC 20005) V.1- 1895- Volume(issue)/page/year: 209,353,80

TOXICOLOGY REVIEW

JAMAAP JAMA, Journal of the American Medical Association. (AMA, 535 N.
Dearborn St., Chicago, IL 60610) V.1- 1883- Volume(issue)/page/year:
235,1458,76

TOXICOLOGY REVIEW

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R.
Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 21,157,80

TOXICOLOGY REVIEW

TJADAB Teratology, The International Journal of Abnormal Development. (Alan R.
Liss, Inc., 41 E. 11th St., New York, NY 10003) V.1- 1968-
Volume(issue)/page/year: 16,53,77

*** U.S. STANDARDS AND REGULATIONS ***

DOT-HAZARD:3; LABEL:FLAMMABLE LIQUID (UN1987, UN1170)

CFRGBR Code of Federal Regulations. (U.S. Government Printing Office, Supt.
of Documents, Washington, DC 20402) Volume(issue)/page/year: 49,172.101,92

DOT-HAZARD:3; LABEL:FLAMMABLE LIQUID, POISON (UN1986)

CFRGBR Code of Federal Regulations. (U.S. Government Printing Office, Supt.
of Documents, Washington, DC 20402) Volume(issue)/page/year: 49,172.101,92

EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION

FEREAC Federal Register. (U.S. Government Printing Office, Supt. of
Documents, Washington, DC 20402) V.1- 1936- Volume(issue)/page/year:
54,7740,89

MSHA STANDARD-air:TWA 1000 ppm (1900 mg/m3)

DTLVS* "Documentation of Threshold Limit Values for Substances in Workroom Air." For publisher information, see 85INA8. Volume(issue)/page/year: 3,103,71

OSHA PEL (Gen Indu):8H TWA 1000 ppm (1900 mg/m3)

CFRGBR Code of Federal Regulations. (U.S. Government Printing Office, Supt. of Documents, Washington, DC 20402) Volume(issue)/page/year: 29,1910.1000,94

OSHA PEL (Construc):8H TWA 1000 ppm (1900 mg/m3)

CFRGBR Code of Federal Regulations. (U.S. Government Printing Office, Supt. of Documents, Washington, DC 20402) Volume(issue)/page/year: 29,1926.55,94

OSHA PEL (Shipyard):8H TWA 1000 ppm (1900 mg/m3)

CFRGBR Code of Federal Regulations. (U.S. Government Printing Office, Supt. of Documents, Washington, DC 20402) Volume(issue)/page/year: 29,1915.1000,93

OSHA PEL (Fed Cont):8H TWA 1000 ppm (1900 mg/m3)

CFRGBR Code of Federal Regulations. (U.S. Government Printing Office, Supt. of Documents, Washington, DC 20402) Volume(issue)/page/year: 41,50-204.50,94

*** OCCUPATIONAL EXPOSURE LIMITS ***

OEL-AUSTRALIA:TWA 1000 ppm (1900 mg/m3) JAN93

OEL-BELGIUM:TWA 1000 ppm (1880 mg/m3) JAN93

OEL-DENMARK:TWA 1000 ppm (1900 mg/m3) JAN93

OEL-FINLAND:TWA 1000 ppm (1900 mg/m3);STEL 1250 ppm (2400 mg/m3) JAN93

OEL-FRANCE:TWA 1000 ppm (1900 mg/m3);STEL 5000 ppm JAN93

OEL-GERMANY:TWA 1000 ppm (1900 mg/m3) JAN93

OEL-HUNGARY:TWA 1000 mg/m3;STEL 3000 mg/m3 JAN93

OEL-THE NETHERLANDS:TWA 1000 ppm (1900 mg/m3) JAN93

OEL-THE PHILIPPINES:TWA 1000 ppm (1900 mg/m3) JAN93

OEL-POLAND:TWA 1000 mg/m3 JAN93

OEL-RUSSIA:STEL 1000 mg/m3 JAN93

OEL-SWEDEN:TWA 1000 ppm (1900 mg/m3) JAN93

OEL-SWITZERLAND:TWA 1000 ppm (1900 mg/m3) JAN93

OEL-THAILAND:TWA 1000 ppm (1900 mg/m3) JAN93

OEL-TURKEY:TWA 1000 ppm (1900 mg/m3) JAN93

OEL-UNITED KINGDOM:TWA 1000 ppm (1900 mg/m3) JAN93

OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV

OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGIH TLV

*** NIOSH STANDARDS DEVELOPMENT AND SURVEILLANCE DATA ***

NIOSH RECOMMENDED EXPOSURE LEVEL (REL) :

NIOSH REL TO ETHYL ALCOHOL-air:10H TWA 1000 ppm

REFERENCE :

NIOSH* National Institute for Occupational Safety and Health, U.S. Dept. of Health, Education, and Welfare, Reports and Memoranda. Volume(issue)/page/year: DHHS #92-100,92

NIOSH OCCUPATIONAL EXPOSURE SURVEY DATA :

NOHS - National Occupational Hazard Survey (1974)

NOHS Hazard Code - 31500

No. of Facilities: 157709 (estimated)

No. of Industries: 430

No. of Occupations: 242

No. of Employees: 2088926 (estimated)

NOES - National Occupational Exposure Survey (1983)

NOES Hazard Code - 31500

No. of Facilities: 86077 (estimated)

No. of Industries: 334

No. of Occupations: 222

No. of Employees: 2069125 (estimated)

No. of Female Employees: 1014002 (estimated)

*** STATUS IN U.S. ***

EPA GENETOX PROGRAM 1988, Positive: Rodent dominant lethal

EPA GENETOX PROGRAM 1988, Negative: Aspergillus-forward mutation; SHE-clonal assay

EPA GENETOX PROGRAM 1988, Negative: Cell transform.-RLV F344 rat embryo

EPA GENETOX PROGRAM 1988, Negative: In vitro cytogenetics-nonhuman;
Mammalian micronucleus

EPA GENETOX PROGRAM 1988, Negative: N crassa-aneuploidy; Histidine reversion-
Ames test

EPA GENETOX PROGRAM 1988, Negative: In vitro SCE-human lymphocytes; In vitro
SCE-human

EPA GENETOX PROGRAM 1988, Negative: In vitro SCE-nonhuman; Sperm
morphology-mouse

EPA GENETOX PROGRAM 1988, Negative/limited: Carcinogenicity-mouse/rat

EPA TSCA Section 8(b) CHEMICAL INVENTORY

EPA TSCA Section 8(d) unpublished health/safety studies

EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, OCTOBER 1996

NIOSH Analytical Method, 1994: Ethanol in blood, 8002

NIOSH Analytical Method, 1994: Alcohols I, 1400

NTP Carcinogenesis studies; laboratory assigned, May 1996

*** END OF RECORD ***