

Material Safety Data Sheet

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Version 1.4

According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	TETRACYCLINE HYDROCHLORIDE
Product Number	87130
Company	Sigma-Aldrich Pty, Ltd Unit 2, 14 Anella Avenue Castle Hill NSW 1765 Australia
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2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
TETRACYCLINE HYDROCHLORIDE	64-75-5	200-593-8	None

Formula	C ₂₂ H ₂₄ N ₂ O ₈ ·HCl
Molecular Weight	480.91 AMU
Synonyms	Achromycin hydrochloride * ALA TET * Amycin, hydrochloride * Artomycin * Bristacycline * Cancycline-250 * Cefracycline tablets * Chlorhydrate de tetracycline (French) * Chlorowodorku tetracykliny (Polish) * Cyclopar * Diacycine * Dumocyclin * Hostacycline * Medamycin * Mephacyclin * NCI-C55561 * Neocycline B * Paltet * Panmycin hydrochloride * Partrex * Piracaps * Polycycline hydrochloride * Polyotic ointment * Qidtet * Quadracycline * Quatrex * Remicyclin * Ricycline * Ro-Cycline * Sanclomycine * Steclin * Stilciclina * Subamycin * Sumycin * Supramycin * Tefilin * Teline * Telotrex * Tet-Cy * Tetrabakat * Tetrabid * Tetrablet * Tetracaps * Tetrachel * Tetraciclina cloridrato (Italian) * Tetracompre * Tetracycline chlorohydrate * Tetracycline hydrochloride * Tetra-D * Tetrakap * Tetralution * Tetramavan * Tetra-wedel * Tetrosol * Topicycline * Triphacyclin * U-5965 * Unicin * Unimycin * Vetquamycin-324

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Irritating to eyes, respiratory system and skin.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious amounts of water.

AFTER EYE CONTACT

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	220 - 223 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	N/A	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions of Instability: May discolor on exposure to light.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Hydrogen chloride gas.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: QI9100000

ACUTE TOXICITY

LD50
Oral
Rat
6443 mg/kg

LD50
Intraperitoneal
Rat
318 MG/KG

LD50
Subcutaneous
Rat
700 MG/KG
Remarks: Gastrointestinal:Hypermotility, diarrhea.

LD50
Intravenous
Rat
128 MG/KG

LD50
Oral
Mouse
2759 mg/kg

LD50
Intraperitoneal
Mouse
368 MG/KG

LD50
Intravenous
Mouse
157 MG/KG

SENSITIZATION

Sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.

SIGNS AND SYMPTOMS OF EXPOSURE

Can cause phototoxic reactions, gastrointestinal disturbances, turn teeth yellow and reduce mineralization.

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: Material is irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

TARGET ORGAN INFORMATION

Liver. Teeth. Bones.

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that is probably not carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

CHRONIC EXPOSURE - MUTAGEN

Human
500 UMOL/L
Cell Type: fibroblast
DNA damage

Human
750 UMOL/L
Cell Type: fibroblast
Unscheduled DNA synthesis

Human
1250 UMOL/L
Cell Type: fibroblast
DNA inhibition

Rat
200 UMOL/L
Cell Type: liver
DNA damage

Mouse
31600 UG/L
Cell Type: mammary gland
DNA inhibition

Mouse
31600 UG/L
Cell Type: mammary gland
Other mutation test systems

Mouse
31600 UG/L
24H
Cell Type: mammary gland
Cytogenetic analysis

Mouse
120 MG/L
Cell Type: lymphocyte
Mutation in mammalian somatic cells.

Mouse
100 MG/L
Cell Type: mammary gland
Mutation in mammalian somatic cells.

Hamster
3 MG/L
Cell Type: Embryo
Sister chromatid exchange

CHRONIC EXPOSURE - TERATOGEN

Result: Possible risk of congenital malformation in the fetus.

Species: Rat
Dose: 14 GM/KG
Route of Application: Oral
Exposure Time: (3D MALE/3D PRE-22D PREG)
Result: Specific Developmental Abnormalities: Musculoskeletal system. Specific Developmental Abnormalities: Urogenital system.

Species: Rat
Dose: 240 MG/KG
Route of Application: Subcutaneous
Exposure Time: (16-20D PREG)
Result: Effects on Embryo or Fetus: Other effects to embryo.

Species: Rat
Dose: 240 MG/KG
Route of Application: Intramuscular
Exposure Time: (10-15D PREG)

Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Mouse

Dose: 600 MG/KG

Route of Application: Intraperitoneal

Exposure Time: (8-13D PREG)

Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Mouse

Dose: 150 MG/KG

Route of Application: Intraperitoneal

Exposure Time: (10D PREG)

Result: Specific Developmental Abnormalities: Musculoskeletal system.

Species: Mouse

Dose: 2250 MG/KG

Route of Application: Subcutaneous

Exposure Time: (10-18D PREG)

Result: Specific Developmental Abnormalities: Urogenital system. Effects on Newborn: Viability index (e.g., # alive at day 4 per # born alive). Effects on Newborn: Growth statistics (e.g., reduced weight gain).

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat

Dose: 6 GM/KG

Route of Application: Oral

Exposure Time: (9-14D PREG)

Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Species: Rat

Dose: 425 MG/KG

Route of Application: Intraperitoneal

Exposure Time: (14-18D PREG)

Result: Effects on Fertility: Abortion. Effects on Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord).

Species: Rat

Dose: 450 MG/KG

Route of Application: Unreported

Exposure Time: (7-15D PREG)

Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Species: Rat

Dose: 765 MG/KG

Route of Application: Unreported

Exposure Time: (7-15D PREG)

Result: Effects on Fertility: Abortion.

Species: Rat

Dose: 100 MG/KG

Route of Application: Intrauterine

Exposure Time: (1D PRE)

Result: Maternal Effects: Uterus, cervix, vagina.

Species: Mouse

Dose: 900 MG/KG

Route of Application: Intraperitoneal

Exposure Time: (8-13D PREG)

Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Effects on Embryo or Fetus: Fetal death. Specific Developmental

Abnormalities: Musculoskeletal system.

Species: Mouse

Dose: 750 MG/KG

Route of Application: Subcutaneous

Exposure Time: (1-6D PREG)

Result: Effects on Fertility: Abortion.

Species: Mouse

Dose: 2250 MG/KG

Route of Application: Parenteral

Exposure Time: (10-18D PREG)

Result: Effects on Newborn: Growth statistics (e.g., reduced weight gain).

Species: Rabbit

Dose: 9 GM/KG

Route of Application: Oral

Exposure Time: (8-16D PREG)

Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

12 - Ecological Information

No data available.

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

Non-hazardous for road transport.

IMDG

Non-hazardous for sea transport.

IATA

Non-hazardous for air transport.

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

INDICATION OF DANGER: Xi

Irritant.

R-PHRASES: 36/37/38

Irritating to eyes, respiratory system and skin.

S-PHRASES: 26 36

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

16 - Other Information

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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