Section 1 - Product and Company Information

Product Name               TETRACYCLINE HYDRATE, 99%
Product Number             268054
Brand                      ALDRICH
Company                    Sigma-Aldrich
Address                    3050 Spruce Street
                           SAINT LOUIS MO 63103 US
Technical Phone:           800-325-5832
Fax:                       800-325-5052
Emergency Phone:          314-776-6555

Section 2 - Composition/Information on Ingredient

Substance Name              CAS #                      SARA 313
TETRACYCLINE FREE BASE      60-54-8                    No

Formula         C22H24N2O8
Synonyms        Abramycin * Abricycline * Achromycin  
                (naphthracene derivatives) * Agromicina * 
                Ambramicina * Ambramycin * Amycin * Biocycline *  
                Cefracycline suspension * Criseocicлина * 
                Cyclomycin * Cytome * Deschlorobiomycin * 
                Hostacyclin * Liquamycin * Medocycline * 
                6-Methyl-1,11-dioxy-2-naphthacenecarboxamide * 
                Micycline * Neocycline * Oletetrin * Omegamycin * 
                Orlycycline * Panmycin * Polycycline (antibiotic) 
                * Resteclin * Rovicicлина * Sumycin syrup * 
                Tetrabon * Tetra-Co * Tetracycline * Tetracycline 
                I * Tetracycline II * Tetracyn * Tetradecin * 
                Tetrafil * Tsiklomitsin * T-125 * Veracin * 
                Vetacyclinum
RTECS Number:           QI8750000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Harmful.
Harmful if swallowed.
Photosensitizer. Calif. Prop. 65 developmental hazard. Target 
organ(s): Liver. Teeth. Bones.

HMIS RATING
HEALTH: 3*  
FLAMMABILITY: 0  
REACTIVITY: 1

NFPA RATING
HEALTH: 3  
FLAMMABILITY: 0  
REACTIVITY: 1
Section 4 - First Aid Measures

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

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

DERMAL EXPOSURE
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT
N/A

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Noncombustible. Use extinguishing media appropriate to surrounding fire conditions.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, 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.

Section 7 - Handling and Storage

HANDLING
User Exposure: Do not breathe dust. Avoid contact with eyes,
skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE
   Suitable: Keep tightly closed.

SPECIAL REQUIREMENTS
   Light sensitive.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
   Safety shower and eye bath. Mechanical exhaust required.

PERSONAL PROTECTIVE EQUIPMENT
   Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.
   Hand: Compatible chemical-resistant gloves.
   Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
   Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Color: Yellow</td>
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</tr>
<tr>
<td></td>
<td>Form: Powder</td>
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</tr>
<tr>
<td>Molecular Weight</td>
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</tr>
<tr>
<td>pH</td>
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<td>MP/MP Range</td>
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<td>Freezing Point</td>
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<td>Odor Threshold</td>
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<td>Water Content</td>
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<td>Decomposition Temp.</td>
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<td>Explosion Limits</td>
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<td>Degree of Rotation: 10 g/l Solvent: MeOH -291 - -236 (+/-5)</td>
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<td>Miscellaneous Data</td>
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<tr>
<td>Solubility</td>
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</table>
Section 10 - Stability and Reactivity

STABILITY
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.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.
Skin Absorption: May be harmful if absorbed through the skin.
Eye Contact: May cause eye irritation.
Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.
Ingestion: Harmful if swallowed.

SENSITIZATION
Sensitization: Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.
Skin: Can cause skin photosensitization.

TARGET ORGAN(S) OR SYSTEM(S)

SIGNS AND SYMPTOMS OF EXPOSURE
Can cause phototoxic reactions, gastrointestinal disturbances, turn teeth yellow and reduce mineralization.

TOXICITY DATA

Multiple
Woman
310 MG/KG
LDLO
Remarks: Liver:Jaundice, other or unclassified.

Oral
Rat
807 mg/kg
LD50

Intraperitoneal
Rat
310 MG/KG
LD50

Intravenous
Rat
129 MG/KG
LD50
Oral
Mouse
678 mg/kg
LD50

Intraperitoneal
Mouse
120 MG/KG
LD50

Subcutaneous
Mouse
400 MG/KG
LD50

Intravenous
Mouse
157 MG/KG
LD50

Oral
Guinea pig
1875 mg/kg
LD50

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 - TERATOGEN
Result: Possible risk of congenital malformation in the fetus.

Species: Rat
Dose: 100 UG/M3/24H
Route of Application: Inhalation
Exposure Time: (1-20D PREG)
Result: Effects on Embryo or Fetus: Fetal death.

Species: Rat
Dose: 1 MG/M3/24H
Route of Application: Inhalation
Exposure Time: (1-20D PREG)
Result: Effects on Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord).

Species: Rat
Dose: 3 GM/KG
Route of Application: Unreported
Exposure Time: (9-14D PREG)
Result: Effects on Embryo or Fetus: Fetal death.

Species: Mouse
Dose: 700 MG/KG
Route of Application: Oral
Exposure Time: (14D POST)
Result: Specific Developmental Abnormalities: Skin and skin appendages.

Species: Mammal
Dose: 55 MG/KG
Route of Application: Intravenous
Exposure Time: (8-18D PREG)
Result: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

CHRONIC EXPOSURE - MUTAGEN

Species: Mouse
Route: Intraperitoneal
Dose: 110 MG/KG
Exposure Time: 24H
Mutation test: Micronucleus test

Species: S. typhimurium
Mutation test: Histidine reversion (Ames)

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Woman
Dose: 200 MG/KG
Route of Application: Unreported
Exposure Time: (34-35W PREG)
Result: Effects on Newborn: Delayed effects.

Species: Woman
Dose: 80 MG/KG
Route of Application: Unreported
Exposure Time: (1-39W PREG)
Result: Effects on Newborn: Other postnatal measures or effects.

Species: Rat
Dose: 10 GM/KG
Route of Application: Oral
Exposure Time: (8-21D PREG/7D POST)
Result: Effects on Newborn: Behavioral.

Species: Rat
Dose: 863 MG/KG
Route of Application: Oral
Exposure Time: (4D POST)

Species: Rat
Dose: 413 MG/KG
Route of Application: Oral
Exposure Time: (3D POST)

Species: Rat
Dose: 700 MG/KG
Route of Application: Intramuscular
Exposure Time: (8-14D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Section 12 - Ecological Information

No data available.
Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
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.

Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA
Non-Hazardous for Air Transport: Non-hazardous for air transport.

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION
Symbol of Danger: Xn
Indication of Danger: Harmful.
R: 22
Risk Statements: Harmful if swallowed.
S: 22-36
Safety Statements: Do not breathe dust. Wear suitable protective clothing.

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Harmful.
Risk Statements: Harmful if swallowed.
Safety Statements: Do not breathe dust. Wear suitable protective clothing.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No

UNITED STATES - STATE REGULATORY INFORMATION
CALIFORNIA PROP - 65
California Prop - 65: This product is or contains chemical(s) known to the state of California to cause developmental toxicity. This product is or contains chemical(s) known to the state of California to cause developmental toxicity.

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: No
NDSL: No

Section 16 - Other Information

DISCLAIMER
For R&D use only. Not for drug, household or other uses.
WARRANTY

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