

MATERIAL SAFETY DATA SHEET

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Version 1.1

Section 1 - Product and Company Information

Product Name SODIUM CACODYLATE TRIHYDRATE (FW 214)
Product Number C0250
Brand SIGMA

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 |
|--|-----------|----------|
| CACODYLIC ACID, SODIUM SALT, TRIHYDRATE | 6131-99-3 | Yes |

Formula $C_2H_6AsNaO_2 \cdot 3H_2O$
Synonyms Dimethylarsenic acid sodium salt trihydrate *
Dimethylarsinic acid sodium salt trihydrate *
Hydroxydimethylarsine oxide sodium salt trihydrat
* Sodium dimethylarsinic acid trihydrate
RTECS Number: CH7890000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Toxic. Dangerous for the environment.
Toxic by inhalation and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Target organ(s): Liver. Bone marrow.

HMIS RATING

HEALTH: 2*
FLAMMABILITY: 0
REACTIVITY: 1

NFPA RATING

HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 1

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is

conscious. Call a physician immediately.

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

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. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Store with desiccant.

SPECIAL REQUIREMENTS

Moisture sensitive.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

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 full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand: Handle with gloves in hood. Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

EXPOSURE LIMITS, RTECS

| Country | Source | Type | Value |
|-------------|-------------------|---------|--------------------------------|
| USA USA | MSHA Standard-air | TWA TWA | 0.5 MG(AS)/M3 0.5 MG(AS)/M3 |
| USA USA | OSHA. OSHA. | PEL PEL | 8H TWA 0.5 MG(AS)/M3 8H TWA 0. |
| New Zealand | OEL OEL | | |

Remarks: check ACGIH TLV check ACGIH TLV

EXPOSURE LIMITS

| Country | Source | Type | Value |
|--------------------|-------------------|---------|-----------|
| | MSHA Standard-air | TWA | 0.5 mg/m3 |
| USA | OSHA. | PEL TWA | 0.5 mg/m3 |
| Remarks: CONSTRUC: | 8H | | |
| USA | OSHA. | PEL TWA | 0.5 mg/m3 |
| Remarks: FED CONT: | 8H | | |
| USA | OSHA. | PEL TWA | 0.5 mg/m3 |
| Remarks: GEN INDU: | 8H | | |
| USA | OSHA. | PEL TWA | 0.5 mg/m3 |
| Remarks: SHIPYARD: | 8H | | |

Section 9 - Physical/Chemical Properties

| | | |
|-----------------------|-----------------------|----------------------------|
| Appearance | Physical State: Solid | |
| | Color: White | |
| | Form: Fine crystals | |
| Property | Value | At Temperature or Pressure |
| Molecular Weight | 214 AMU | |
| pH | 8.7 | Concentration: 50 g/l |
| BP/BP Range | N/A | |
| MP/MP Range | 77.0 - 80.0 °C | |
| Freezing Point | N/A | |
| Vapor Pressure | N/A | |
| Vapor Density | N/A | |
| Saturated Vapor Conc. | N/A | |
| SG/Density | N/A | |
| Bulk Density | N/A | |
| Odor Threshold | N/A | |
| Volatile% | N/A | |
| VOC Content | N/A | |
| Water Content | N/A | |

| | |
|-----------------------|--|
| Solvent Content | N/A |
| Evaporation Rate | N/A |
| Viscosity | N/A |
| Surface Tension | N/A |
| Partition Coefficient | N/A |
| Decomposition Temp. | N/A |
| Flash Point | N/A |
| Explosion Limits | N/A |
| Flammability | N/A |
| Autoignition Temp | N/A |
| Refractive Index | N/A |
| Optical Rotation | N/A |
| Miscellaneous Data | N/A |
| Solubility | Solubility in Water:0.1 g/ml H ₂ O, 20°C complete, colorless |

N/A = not available

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Conditions to Avoid: Moisture.

Materials to Avoid: Strong oxidizing agents, Strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Arsenic oxides, Sodium/sodium 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: Toxic if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.

Ingestion: Toxic if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Liver. Nerves. Bone marrow. Skin. Brain. Heart. G.I. System.

Kidneys.

SIGNS AND SYMPTOMS OF EXPOSURE

Prolonged exposure to arsenic compounds can cause exfoliation and pigmentation of skin, herpes, inflammation of nerves, and nasal septum ulceration. Other symptoms of exposure can include dry mouth, metallic taste, drowsiness, loss of appetite, tremors, convulsions, respiratory arrest, and garlic odor to breath and perspiration.

CONDITIONS AGGRAVATED BY EXPOSURE

Cacodylic acid may be partially reduced to inorganic arsenic in the body. Exposure to arsenic compounds can cause burning and dryness of the oral and nasal cavities, muscle spasms, irritation of the gastrointestinal tract, nausea, vomiting and diarrhea which can progress to shock and death.

TOXICITY DATA

Skin
Rabbit
> 2,000 mg/kg
LD50
4 H
Inhalation
Rat
4,900 mg/m3
LC50
Oral
Rat
2,000 mg/kg
LD50

IRRITATION DATA

Skin
Rabbit
Remarks: No irritation effect

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Hamster
Dose: 20 MG/KG
Route of Application: Intravenous
Exposure Time: (8D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g.,
dead and/or resorbed implants per total number of implants).

Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 48 h
Value: 53.5 mg/l

Test Type: LC50 Fish
Species: Lepomis macrochirus (Bluegill)
Time: 96 h
Value: 17 mg/l

Test Type: LC50 Fish
Species: Onchorhynchus mykiss (Rainbow trout)
Time: 96 h
Value: > 100 mg/l

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: Sodium cacodylate
UN#: 1688
Class: 6.1

Packing Group: Packing Group II
Hazard Label: Toxic substances.
PIH: Not PIH

IATA

Proper Shipping Name: Sodium cacodylate
IATA UN Number: 1688
Hazard Class: 6.1
Packing Group: II

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: T-N
Indication of Danger: Toxic. Dangerous for the environment.
R: 23/25-50/53
Risk Statements: Toxic by inhalation and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S: 20/21-28-45-60-61
Safety Statements: When using do not eat, drink, or smoke. After contact with skin, wash immediately with plenty of water. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Toxic. Dangerous for the environment.
Risk Statements: Toxic by inhalation and if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Statements: When using do not eat, drink, or smoke. After contact with skin, wash immediately with plenty of soap-suds. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.
US Statements: Target organ(s): Liver. Bone marrow.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes
NOTES: This product is subject to SARA section 313 reporting requirements.

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

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 2007 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.