Section 1 - Product and Company Information

Product Name: Sodium chromate tetrahydrate, 99%
Product Number: 216623
Brand: Aldrich Chemical
Company: Sigma-Aldrich
Street Address: 3500 Spruce Street
City, State, Zip, Country: SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5632
Emergency Phone: 314-776-6555
Fax: 800-325-5652

Section 2 - Composition/Information on Ingredient

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS #</th>
<th>SARA 311</th>
<th>EC no</th>
<th>Annex I Index Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>SODIUM CHROMATE TETRAHYDRATE</td>
<td>10030-82-9</td>
<td>Yes</td>
<td>231-869-5</td>
<td>064-018-00-3</td>
</tr>
</tbody>
</table>

Formula: Na2O(OH)4·4H2O
Synonym: Sodium chromate tetrahydrate

Section 3 - Hazards Identification

Emergency Overview
Oxidizing, Highly Toxic (USA), Toxic (EU). Dangerous for the environment.
May cause cancer by inhalation. Toxic in contact with skin. May cause sensitization by skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Target organs: Kidneys, Lungs.

HMIS Rating
Health: 2
Flammability: 0
Reactivity: 3
Special Hazards: Oxidizer

NFPA Rating
Health: 3
Flammability: 0
Reactivity: 3
Special Hazards: Oxidizer

*additional chronic hazards present.
For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

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

Autoignition Temp: N/A
Extinguishing Media
Suitable: 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. Contact with other material may cause fire. May accelerate combustion.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill
Evacuate area.

Procedure(s) of Personal Protection(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, or clothing. Avoid prolonged or repeated exposure.

Storage
Suitable
Keep tightly closed. Keep away from combustible materials, heat, sparks, and open flame.

Special Requirements
Hygroscopic

Section 8 - Exposure Controls / PPE

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

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 particulate respirator type N100 (US) or type P3 (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.

Hood
Compatible chemical-resistant gloves.
Eye
Chemical safety goggles.

General Hygiene Measures
Wash contaminated clothing before reuse. Wash thoroughly after handling.

Exposure Limits, RTECS

<table>
<thead>
<tr>
<th>Country</th>
<th>Source</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>ACGIH</td>
<td>TWA</td>
<td>0.05 MG/CFE/M3</td>
</tr>
<tr>
<td>USA</td>
<td>MSHA Standard-air</td>
<td>TWA</td>
<td>0.5 MG/CFE/M3</td>
</tr>
</tbody>
</table>

Section 9 - Physical/Chemical Properties

Appearance
Physical State
Solid

Molecular Weight: 234.04 AMU

pH
N/A

BP/FP Range
N/A

MP/MP Range
N/A

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

Partition Coefficient
N/A

Decomposition Temp.
N/A

Flash Point °F
N/A

Flash Point °C
N/A

Explosion Limits
N/A

Flammability
N/A

Autoignition Temp
N/A

Solubility
N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable

Conditions to Avoid
Moisture

Materials to Avoid
Strong reducing agents, Organic materials, Finely powdered metals.

Hazardous Decomposition Products
Hazardous Decomposition Products
Carbon monoxide, Carbon dioxide.

Section 11 - Toxicological Information

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Route of Exposure
Skin Contact

Skin Absorption
Causes burns.

Eye Contact

Inhalation
May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Sensitization
Respiratory
May cause allergic respiratory reaction.

Skin
May cause allergic skin reaction.

Target Organ(s) or System(s)
Lungs, Kidneys.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: GB2858800

Toxicity Data

Skin - Rabbit: 101 mg/kg (LD50)

Remarks: Behavioral; Somnolent (general depressed activity).

Kidney, Urinary Bladder: Other changes.

Skin and Appendages: Skin After systemic exposure: Dermatitis, other

Chronic Exposure - Carcinogen

Result: This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

ACGIH Carcinogen List
Rating
A1

Chronic Exposure - Teratogen

Result: May cause congenital malformation in the fetus.

Chronic Exposure - Mutagen

Species
Event

Hamster
500 UG/L

Embryo
Morphological transformation.

Hamster
400 UG/L

Ovary
DNA damage

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. Follow all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Toxic solid, inorganic, n.o.s.
UN Number: 3398
Class: 6.1
Packing Group: Packing Group II
Hazard Label: Toxic substance
PIH: Not PIH

IATA
Proper Shipping Name: Toxic solid, inorganic, n.o.s.
IATA UN Number: 3398
Hazard Class: 6.1
Packing Group: II

Section 15 - Regulatory Information

EU Directives Classification
Symbol of Danger: T N
Indication of Danger
Very toxic. Dangerous for the environment.
Risk Statements
R: 45 61 64 65 66 67 15 16 17 20 21 25 26 28 29 34 37 42/43 45 46/47 50/53
May cause cancer. May cause irreversible genetic damage. May cause harm to the unborn child. Also harmful to aquatic life in contact with skin. Also toxic to water. Also toxic to aquatic life. Causes burns. May cause sensitization by inhalation and skin contact. Also toxic to aquatic life by prolonged exposure through inhalation. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Statements
S: 53 54 60 61
Restricted to professional users. Attention - Avoid exposure. Obtain special instructions before use. In case of contact 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
Oxidizing. Highly toxic (USA) Toxic (EU). Dangerous for the environment.
Risk Statements
May cause cancer by inhalation. Toxic in contact with skin. May cause sensitization by skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety Statements
Restricted to professional users. Attention - Avoid exposure. Obtain special instructions before use. In case of contact or if you feel unwell, seek medical advice immediately (show the label where possible). Keep away from combustible materials. 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): Kidneys, Lungs.

United States Regulatory Information
SARA Listed: Yes
Deminimis: 1.0%
Notes: This product is subject to SARA section 313 reporting requirements - cadmium compounds.

Canada Regulatory Information
WMHS Classification
This product has been classified in accordance with the hazard criteria of the CCL, and the MSDS contains all the information required by the CCL.

Page 5
Aldrich Chemical - 216623
Sigma-Aldrich Corporation
www.sigma-aldrich.com

Page 6
Aldrich Chemical - 216623
Sigma-Aldrich Corporation
www.sigma-aldrich.com