1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name: Sodium chromate tetrahydrate

Product Number: 216623
Brand: Aldrich
Index-No.: 024-018-00-3

CAS-No.: 10034-82-9

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company: Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone: +1 800-325-5832
Fax: +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone #: (314) 776-6555

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Acute toxicity, Oral (Category 3), H301
Acute toxicity, Inhalation (Category 2), H330
Acute toxicity, Dermal (Category 2), H310
Skin corrosion (Category 1B), H314
Serious eye damage (Category 1), H318
Respiratory sensitisation (Category 1), H334
Skin sensitisation (Category 1), H317
Germ cell mutagenicity (Category 1B), H340
Carcinogenicity (Category 1B), H350
Reproductive toxicity (Category 1B), H360
Specific target organ toxicity - repeated exposure, Inhalation (Category 1), H372
Acute aquatic toxicity (Category 1), H400
Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)
H301 Toxic if swallowed.
H310 + H330 Fatal in contact with skin or if inhaled
Causes severe skin burns and eye damage.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause genetic defects.
May cause cancer.
May damage fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure if inhaled.
Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Do not get in eyes, on skin, or on clothing.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Wear respiratory protection.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/ physician.
Specific treatment is urgent (see supplemental first aid instructions on this label).
If skin irritation or rash occurs: Get medical advice/ attention.
Remove/Take off immediately all contaminated clothing.
Collect spillage.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Formula: CrNa$_2$O$_4$·4H$_2$O
Molecular Weight: 234.03 g/mol
CAS-No.: 10034-82-9
EC-No.: 231-889-5
Index-No.: 024-018-00-3

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium chromate tetrahydrate</td>
<td>Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)</td>
<td>Acute Tox. 3; Acute Tox. 2; Skin Corr. 1B; Eye Dam. 1; -</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

4.1 Description of first aid measures

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**If swallowed**
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

no data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Sodium oxides, Chromium oxides

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

no data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. hygroscopic

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium chromate tetrahydrate</td>
<td>10034-82-9</td>
<td>CEIL 1mg/10m3</td>
<td>USA. Occupational Exposure Limits (OSHA) - Table Z2</td>
<td></td>
</tr>
<tr>
<td>Remarks</td>
<td>See Table Z-2 for the exposure limit for any operations or sectors where the exposure limit in § 1910.1026 is stayed or is otherwise not in effect. Substance listed; for more information see OSHA document 1910.1026</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z37.7-1971</td>
<td>This standard applies to any operations or sectors for which the exposure limit in the Chromium (VI) standard, Sec. 1910.1026, is stayed or is otherwise not in effect.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TWA</td>
<td>0.05 mg/m3</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper Respiratory Tract irritation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cancer</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substances for which there is a Biological Exposure Index or Indices (see BEI® section)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Confirmed human carcinogen</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>varies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>See 1910.1026. See Table Z-2 for the exposure limit for any operations or sectors where the exposure limit in 1910.1026 is stayed or are otherwise not in effect.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>See 1910.1026. See Table Z-2 for the exposure limit for any operations or sectors where the exposure limit in 1910.1026 is stayed or are otherwise not in effect.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEL</td>
<td>0.005 mg/m3</td>
<td>OSHA Specifically Regulated Chemicals/Carcinogens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1910.1026</td>
<td>This standard applies to occupational exposures to chromium (VI) in all forms and compounds in general industry, except: (a) Exposures that occur in the application of pesticides regulated by the Environmental Protection Agency or another Federal government agency (e.g., the treatment of wood with preservatives); (b) Exposures to portland cement; or (c) Where the employer has objective data demonstrating that a material containing chromium or a specific process, operation, or activity involving chromium cannot release dusts, fumes, or mists of chromium (VI) in concentrations at or above 0.5 µgm/m3 as an 8-hour time-weighted average (TWA)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
under any expected conditions of use. Chromium (VI) [hexavalent chromium or Cr(VI)] means chromium with a valence of positive six, in any form and in any compound.

OSHA specifically regulated carcinogen

USA. NIOSH Recommended Exposure Limits

<table>
<thead>
<tr>
<th>TWA</th>
<th>0.001 mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Occupational Carcinogen</td>
<td>See Appendix C</td>
</tr>
<tr>
<td>See Appendix A</td>
<td></td>
</tr>
</tbody>
</table>

### Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Parameters</th>
<th>Value</th>
<th>Biological specimen</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium chromate tetrahydrate</td>
<td>10034-82-9</td>
<td>Total chromium</td>
<td>25 µg/l</td>
<td>Urine</td>
<td>ACGIH - Biological Exposure Indices (BEI)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Remarks</td>
<td>End of shift at end of workweek</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total chromium</td>
<td>10 µg/l</td>
<td>Urine</td>
<td>ACGIH - Biological Exposure Indices (BEI)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Increase during shift</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

**Appropriate engineering controls**
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

**Personal protective equipment**

**Eye/face protection**
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact
- Material: Nitrile rubber
- Minimum layer thickness: 0.11 mm
- Break through time: 480 min
- Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact
- Material: Nitrile rubber
- Minimum layer thickness: 0.11 mm
- Break through time: 480 min
- Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Body Protection**
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle 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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1 Information on basic physical and chemical properties

- **a) Appearance** Form: solid
- **b) Odour** no data available
- **c) Odour Threshold** no data available
- **d) pH** no data available
- **e) Melting point/freezing point** no data available
- **f) Initial boiling point and boiling range** no data available
- **g) Flash point** not applicable
- **h) Evaporation rate** no data available
- **i) Flammability (solid, gas)** no data available
- **j) Upper/lower flammability or explosive limits** no data available
- **k) Vapour pressure** no data available
- **l) Vapour density** no data available
- **m) Relative density** no data available
- **n) Water solubility** no data available
- **o) Partition coefficient: n-octanol/water** no data available
- **p) Auto-ignition temperature** no data available
- **q) Decomposition temperature** no data available
- **r) Viscosity** no data available
- **s) Explosive properties** no data available
- **t) Oxidizing properties** no data available

#### 9.2 Other safety information
no data available

### 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity
no data available

#### 10.2 Chemical stability
Stable under recommended storage conditions.

#### 10.3 Possibility of hazardous reactions
no data available

#### 10.4 Conditions to avoid
Avoid moisture.
10.5 **Incompatible materials**
Strong reducing agents, Organic materials, Powdered metals

10.6 **Hazardous decomposition products**
Other decomposition products - no data available
In the event of fire: see section 5

11. **TOXICOLOGICAL INFORMATION**

11.1 **Information on toxicological effects**

**Acute toxicity**
LD50 Dermal - rabbit - 101 mg/kg
Remarks: Behavioral:Somnolence (general depressed activity). Kidney, Ureter, Bladder:Other changes. Prolonged skin contact may cause skin irritation and/or dermatitis.

no data available

**Skin corrosion/irritation**
no data available

**Serious eye damage/eye irritation**
no data available

**Respiratory or skin sensitisation**

**Germ cell mutagenicity**
May alter genetic material.
In vivo tests showed mutagenic effects

Hamster
ovary
DNA damage

Hamster
Embryo
Morphological transformation.

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

Possible human carcinogen

IARC: 1 - Group 1: Carcinogenic to humans (Sodium chromate tetrahydrate)
NTP: Known to be human carcinogen (Sodium chromate tetrahydrate)
OSHA: 1910.1026 (Sodium chromate tetrahydrate)

**Reproductive toxicity**
May cause congenital malformation in the fetus.
Presumed human reproductive toxicant

May cause reproductive disorders.

**Specific target organ toxicity - single exposure**
no data available

**Specific target organ toxicity - repeated exposure**
Inhalation - Causes damage to organs through prolonged or repeated exposure.

**Aspiration hazard**
no data available

**Additional Information**
RTECS: GB2958300

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

Stomach - Irregularities - Based on Human Evidence
12. ECOLOGICAL INFORMATION

12.1 Toxicity
no data available

12.2 Persistence and degradability
no data available

12.3 Bioaccumulative potential
no data available

12.4 Mobility in soil
no data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. 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.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 3288   Class: 6.1   Packing group: II
Proper shipping name: Toxic solid, inorganic, n.o.s. (Sodium chromate tetrahydrate)
Reportable Quantity (RQ): 10 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN number: 3288   Class: 6.1   Packing group: II
Proper shipping name: TOXIC SOLID, INORGANIC, N.O.S. (Sodium chromate tetrahydrate)
Marine pollutant: No

IATA
UN number: 3288   Class: 6.1   Packing group: II
Proper shipping name: Toxic solid, inorganic, n.o.s. (Sodium chromate tetrahydrate)

15. REGULATORY INFORMATION

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>10034-82-9</td>
<td>1993-04-24</td>
</tr>
</tbody>
</table>

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components
Sodium chromate tetrahydrate  
CAS-No. 10034-82-9  
Revision Date 1993-04-24

**Pennsylvania Right To Know Components**
Sodium chromate tetrahydrate  
CAS-No. 10034-82-9  
Revision Date 1993-04-24

**New Jersey Right To Know Components**
Sodium chromate tetrahydrate  
CAS-No. 10034-82-9  
Revision Date 1993-04-24

**California Prop. 65 Components**
WARNING! This product contains a chemical known to the  
State of California to cause cancer.  
Sodium chromate tetrahydrate  
CAS-No. 10034-82-9  
Revision Date 2008-12-19

WARNING: This product contains a chemical known to the  
State of California to cause birth defects or other reproductive  
harm.  
Sodium chromate tetrahydrate  
CAS-No. 10034-82-9  
Revision Date 2008-12-19

### 16. OTHER INFORMATION

**Full text of H-Statements referred to under sections 2 and 3.**

| Acute Tox. | Acute toxicity |
| Aquatic Acute | Acute aquatic toxicity |
| Aquatic Chronic | Chronic aquatic toxicity |
| Carc. | Carcinogenicity |
| Eye Dam. | Serious eye damage |
| H301 | Toxic if swallowed. |
| H310 | Fatal in contact with skin. |
| H310 + H330 | Fatal in contact with skin or if inhaled |
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H330 | Fatal if inhaled. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H340 | May cause genetic defects. |
| H350 | May cause cancer. |
| H360 | May damage fertility or the unborn child. |

**HMIS Rating**
Health hazard: 3  
Chronic Health Hazard: *  
Flammability: 0  
Physical Hazard 0

**NFPA Rating**
Health hazard: 4  
Fire Hazard: 0  
Reactivity Hazard: 0

**Further information**
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