

# Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 06/22/2009

Reviewed on 06/19/2009

## 1 Identification of substance:

### Product details:

**Product name:** Sodium chromate, tetrahydrate

**Stock number:** 13453

### Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company  
Johnson Matthey Catalog Company, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Emergency Phone: (978) 521-6300  
CHEMTREC: (800) 424-9300  
Web Site: [www.alfa.com](http://www.alfa.com)

**Information Department:** Health, Safety and Environmental Department

### Emergency information:

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

## 2 Composition/Data on components:

### Chemical characterization:

#### Description: (CAS#)

Sodium chromate, tetrahydrate (CAS# 10034-82-9); 100%

#### Identification number(s):

EINECS Number: 231-889-5

## 3 Hazards identification

### Hazard description:



T+ Very toxic  
N Dangerous for the environment

### Information pertaining to particular dangers for man and environment

R 45 May cause cancer.  
R 46 May cause heritable genetic damage.  
R 60 May impair fertility  
R 61 May cause harm to the unborn child  
R 21 Also harmful in contact with skin.  
R 25 Also toxic if swallowed.  
R 26 Also very toxic by inhalation.  
R 34 Causes burns.  
R 42/43 May cause sensitization by inhalation and skin contact.  
R 48/23 Also toxic: danger of serious damage to health by prolonged exposure through inhalation.  
R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

### Classification system

#### HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	3
FIRE	0
REACTIVITY	1

Health (acute effects) = 3  
Flammability = 0  
Reactivity = 1

### GHS label elements



**Danger**

3.1/2 - Fatal if swallowed.  
3.1/3 - Toxic in contact with skin.  
3.1/2 - Fatal if inhaled.  
3.4/1 - May cause an allergic skin reaction.

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**Danger**

- 3.4/1 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 3.5/1A - May cause genetic defects.  
 3.6/1A - May cause cancer.  
 3.7/1A - May damage fertility or the unborn child.  
 3.9/1 - Causes damage to organs through prolonged or repeated exposure.

**Danger**

- 3.2/1B - Causes severe skin burns and eye damage.

**Warning**

- 4.1/1 - Very toxic to aquatic life with long lasting effects.

**Prevention:**

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.  
 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 Wash 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.  
 Use personal protective equipment as required.  
 Wear respiratory protection.  
 In case of inadequate ventilation wear respiratory protection.

**Response:**

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 IF ON SKIN: Wash with plenty of soap and water.  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
 IF INHALED: If breathing is difficult, remove 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.  
 IF exposed or concerned: Get medical advice/attention.  
 Immediately call a POISON CENTER or doctor/physician.  
 Call a POISON CENTER or doctor/physician if you feel unwell.  
 Get medical advice/attention if you feel unwell.  
 Specific treatment is urgent (see label).  
 Specific treatment (see label).  
 Specific measures (see label).  
 Rinse mouth.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
 Remove/Take off immediately all contaminated clothing.  
 Wash contaminated clothing before reuse.  
 Collect spillage.

**Storage:**

Store in a well-ventilated place. Keep container tightly closed.  
 Store locked up.

**Disposal:**

Dispose of contents/container in accordance with local/regional/national/international regulations.

## 4 First aid measures

**General information**

Immediately remove any clothing soiled by the product.  
 Remove breathing apparatus only after contaminated clothing has been completely removed.  
 In case of irregular breathing or respiratory arrest provide artificial respiration.

**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

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Seek immediate medical advice.

**After skin contact**

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

**After eye contact**

Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing**

Do not induce vomiting; immediately call for medical help.

Seek immediate medical advice.

### 5 Fire fighting measures

**Suitable extinguishing agents**

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

**Special hazards caused by the material, its products of combustion or resulting gases:**

In case of fire, the following can be released:

Sodium oxide

Toxic metal oxide fume

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

### 6 Accidental release measures

**Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

**Measures for environmental protection:**

Do not allow material to be released to the environment without proper governmental permits.

**Measures for cleaning/collecting:**

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

**Additional information:**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### 7 Handling and storage

**Handling****Information for safe handling:**

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Open and handle container with care.

**Information about protection against explosions and fires:** The product is not flammable**Storage****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Store away from reducing agents.**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

### 8 Exposure controls and personal protection

**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Components with limit values that require monitoring at the workplace:**

Chromium (VI) compounds, as Cr

mg/m<sup>3</sup>

ACGIH TLV 0.05; Confirmed human carcinogen

Belgium TWA 0.01 (insoluble)

0.05 (water soluble)

Germany MAK 0.1 (production) (water soluble)

0.5 (other applications) (water soluble)

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Netherlands MAC-TGG 0.01 (water insoluble)  
 0.025 (water soluble)  
 0.05-STEEL (water soluble)  
 Poland TWA 0.025; 0.05-STEEL  
 Sweden TWA 0.02  
 United Kingdom TWA 0.05  
 USA PEL 0.005

Additional information: No data

**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

**Breathing equipment:** Use suitable respirator when high concentrations are present.**Protection of hands:**

Check protective gloves prior to each use for their proper condition.

Impervious gloves

**Material of gloves**

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

**Eye protection:**

Safety glasses

Tightly sealed goggles

Full face protection

**Body protection:** Protective work clothing.**9 Physical and chemical properties:****General Information**

**Form:** Crystalline  
**Color:** Yellow  
**Odor:** Odorless

**Change in condition****Melting point/Melting range:** 792°C (1458°F) (anhydrous)**Boiling point/Boiling range:** Not determined**Sublimation temperature / start:** Not determined**Flash point:** Not applicable**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Danger of explosion:** Product does not present an explosion hazard.**Explosion limits:****Lower:** Not determined**Upper:** Not determined**Vapor pressure:** Not determined**Density at 20°C (68°F):** 2.723 g/cm<sup>3</sup>

**Solubility in / Miscibility with**  
**Water at 20°C (68°F):** 873 g/l

**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

**Materials to be avoided:** Reducing agents**Dangerous reactions**

Reacts with reducing agents

Reacts with flammable substances

**Dangerous products of decomposition:**

Sodium oxide

Toxic metal oxide fume

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### 11 Toxicological information

**Acute toxicity:**
**Primary irritant effect:**
**on the skin:**

Corrosive effect on skin and mucous membranes.

Irritant to skin and mucous membranes.

**on the eye:**

Strong corrosive effect.

Irritating effect.

**Sensitization:**

Sensitization possible through inhalation.

Sensitization possible through skin contact.

**Subacute to chronic toxicity:**

Chromium (VI) compounds may cause skin ulceration, gastrointestinal irritation with vomiting and diarrhea, kidney and liver damage. Overexposure may be fatal. Dusts are extremely irritating to the eyes, nose, throat and bronchial tubes. May cause cancers of the lungs, nasal cavity, sinuses, stomach and larynx.

**Subacute to chronic toxicity:**

Corrosive materials are acutely destructive to the respiratory tract, eyes, skin and digestive tract. Eye contact may result in permanent damage and complete vision loss.

Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis. May cause coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Ingestion may cause damage to the mouth, throat and esophagus. May cause skin burns or irritation depending on the severity of the exposure.

Chromates may cause ulceration and perforation of the nasal septum, liver and kidney damage, and ulceration of the skin.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Danger through skin absorption.

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

May impair fertility.

May cause harm to the unborn child.

EPA-A: human carcinogen: sufficient evidence from epidemiologic studies to support a causal association between exposure and cancer.

IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.

NTP-1: Known to be carcinogenic: sufficient evidence from human studies.

ACGIH A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies of, or convincing clinical evidence in, exposed humans.

### 12 Ecological information:

**Ecotoxicological effects:**

**Remark:** Very toxic for fish

**General notes:**

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Do not allow material to be released to the environment without proper governmental permits.

Very toxic for aquatic organisms

### 13 Disposal considerations

**Product:**

**Recommendation** Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

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## 14 Transport information

### DOT regulations:



**Hazard class:** 6.1  
**Identification number:** UN3288  
**Packing group:** II  
**Proper shipping name (technical name):** TOXIC SOLID, INORGANIC, N.O.S. (Sodium chromate, tetrahydrate)  
**Label:** 6.1

### Land transport ADR/RID (cross-border)



**ADR/RID class:** 6.1 (T5) Toxic substances  
**Danger code (Kemler):** 60  
**UN-Number:** 3288  
**Packaging group:** II  
**Description of goods:** 3288 TOXIC SOLID, INORGANIC, N.O.S. (Sodium chromate, tetrahydrate)

### Maritime transport IMDG:



**IMDG Class:** 6.1  
**UN Number:** 3288  
**Label:** 6.1  
**Packaging group:** II  
**Proper shipping name:** TOXIC SOLID, INORGANIC, N.O.S. (Sodium chromate, tetrahydrate)

### Air transport ICAO-TI and IATA-DGR:



**ICAO/IATA Class:** 6.1  
**UN/ID Number:** 3288  
**Label:** 6.1  
**Packaging group:** II  
**Proper shipping name:** TOXIC SOLID, INORGANIC, N.O.S. (Sodium chromate, tetrahydrate)

UN "Model Regulation": UN3288, TOXIC SOLID, INORGANIC, N.O.S., 6.1, II

Environmental hazards: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID

## 15 Regulations

### Product related hazard informations:

#### Hazard symbols:

T+ Very toxic

N Dangerous for the environment

#### Risk phrases:

- 45 May cause cancer.
- 46 May cause heritable genetic damage.
- 60 May impair fertility
- 61 May cause harm to the unborn child
- 21 Also harmful in contact with skin.
- 25 Also toxic if swallowed.
- 26 Also very toxic by inhalation.
- 34 Causes burns.

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42/43 May cause sensitization by inhalation and skin contact.

48/23 Also toxic: danger of serious damage to health by prolonged exposure through inhalation.

50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**Safety phrases:**

53 Avoid exposure - obtain special instructions before use.

45 In case of accident or if you feel unwell, seek medical advice immediately.

60 This material and its container must be disposed of as hazardous waste.

61 Avoid release to the environment. Refer to special instructions/Safety data sheets

**Special labeling of certain preparations:**

This product contains a chemical known to the state of California to cause cancer or reproductive toxicity.

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

**Information about limitation of use:**

For use only by technically qualified individuals.

This product contains chromium and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

**16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing MSDS:** Health, Safety and Environmental Department.**Contact:** Zachariah Holt**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

USA