

1. PRODUCT AND COMPANY IDENTIFICATION

| | |
|-----------------------|--|
| Product name | Sodium Dichromate Solution |
| Manufacturer | Sentury Reagents, Inc. 2515 Commerce Dr. Rock Hill, SC 29730 |
| Telephone | 803-327-6880 |
| Fax | 803-327-3872 |
| Emergency Phone # | PERS: 800-633-8253 |
| International Phone # | 011-801-629-0667 |
| Account | 10613 |

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazardous

Oxidizer, Carcinogen, Target Organ Effect, Toxic by inhalation, Highly toxic by ingestion. Harmful by skin absorption, Respiratory sensitizer, Corrosive, Teratogen, Reproductive hazard, Mutagen.

Target Organs: Kidney, Liver

Signal Words: DANGER

Classification

Oxidizing liquid (Category 2)
Acute toxicity, Oral (Category 2)
Acute toxicity, Inhalation (Category 2)
Acute toxicity, Dermal (Category 4)
Skin corrosion (Category 1B)
Serious eye damage (Category 1)
Respiratory sensitization (Category 1)
Germ cell mutagenicity (Category 1B)
Carcinogenicity (Category 1B)
Reproductive toxicity (Category 1B)
Specific target organ toxicity-repeated exposure, Inhalation (Category 1)
Acute aquatic toxicity (Category 1)

GH3 Label elements, including precautionary statements

Pictogram



Signal word Danger

Hazard statement(s)

| | |
|-----------|--|
| H272 | May intensify fire; oxidiser. |
| H300 | Fatal if swallowed. |
| H330 | Fatal if inhaled. |
| H312 | Harmful in contact with skin. |
| H312+H332 | Harmful in contact with skin or inhaled. |
| H314 | Causes severe skin burns and eye damage. |
| 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
 H372 Causes damage to organs through prolonged or repeated exposure.
 H400 Very toxic to aquatic life.

Precautionary statement(s)

P201 Obtain special instructions before use.
 P220+P223 Keep/Store away from clothing/ combustible materials. Keep container tightly closed.
 P260 Do NOT breathe dust/mist/vapors/spray.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P284 Upper respiratory protection.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER or doctor/physician.
 P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.

HMIS Classification

Health hazard: 3
Flammability 0
Physical 2
Personal F

NFPA Rating

Health hazard: 3
Fire: 0
Reactivity Hazard: 0
Special hazard: OX

Potential Health Effects

Eyes Causes severe eye burns. Contact rapidly cause sever damage.
Inhalation May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Causes burns to the respiratory tract.
Skin May be harmful if absorbed through skin. Causes skin burns. Prolonged or repeated skin exposure may cause dermatitis.
Ingestion May be fatal if swallowed. Severe and rapid corrosive burns of the mouth, gullet and gastrointestinal tract will result if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | Weight % | CAS # | EINECS# / ELINCS# | Formula | Molecular Weight |
|-------------------|----------|-----------|-------------------|---|------------------|
| Sodium Dichromate | 69-71 | 7789-12-0 | 234-190-3 | Na ₂ Cr ₂ O ₇ ·2H ₂ O | 298.0 g/mol |
| Water | 29-31 | 7732-18-5 | 231-791-2 | H ₂ O | 18.00 g/mol |

4. FIRST AID MEASURES

If inhaled

Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

In case of skin contact

Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.

In case of eye contact

Immediately rinse with plenty of water for at least 15 minutes and seek medical attention immediately.

If swallowed

DO NOT INDUCE VOMITING! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

5. FIRE-FIGHTING MEASURES

Conditions of flammability

Not flammable.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide on adjacent fires.

Special protective equipment for firefighters

Wear self contained breathing apparatus and full protective clothing, including eye protection and boots.

Special hazards arising from the chemical

Emits toxic fumes (Chromium oxides) under fire conditions. See also Stability and Reactivity section.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

See section 8 for recommendations on the use of personal protective equipment.

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. Any release to the environment may be subject to federal/national or local reporting requirements.

Methods and materials for containment and cleaning up

Cleanup personnel need personal protection from inhalation and skin/eye contact. Evacuate and ventilate the area. Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal. Clean surfaces thoroughly with water to remove residual contamination. Any release to the environment may be subject to federal/national or local reporting requirements. Dispose of all waste or cleanup materials in accordance with local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use.

Conditions for safe storage

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure controls:

| Component | Exposure Limits | Basis | Entity |
|-----------------|---|-------|-----------|
| Sodium Chromate | 0.005 mg/m ³ (as Cr) | PEL | USA OSHA |
| | 0.001 mg/m ³ ceiling (as Cr) | STEP | USA OSHA |
| | 0.05 mg/m ³ (as Cr) | TWA | USA ACGIH |
| | 0.001 mg/m ³ (as Cr VI) | TWA | USA NIOSH |

TWA: Time Weighted Average over 8 hours of work. TLV.

Threshold Limit Value over 8 hours of work

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

Personal Protection

| | |
|-------------------|---|
| Eyes | Wear chemical safety glasses. |
| Inhalation | Use an approved respirator if exposure level exceed limits. Provide adequate exhaust. |
| Skin | Wear neoprene or nitrile gloves, protective clothing appropriate to the risk of exposure. |

Other Recommendation

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

| | |
|--------|----------------------|
| Form | liquid |
| Colour | Red, orange crystals |

Safety data

| | |
|----------------------------|-----------------|
| pH | 4 (1% solution) |
| Melting/ freezing point | not applicable |
| freezing point | -4°F / -20°C |
| Boiling point | 238°F / 114.4°C |

| | |
|---|-------------------------------|
| Flash point | Not Flammable (see section 5) |
| Ignition temp | no data available |
| Auto-ignition temp | not self-igniting |
| Lower/Upper explosion limit | Not explosive (see section 5) |
| Vapour pressure | no data available |
| Density | no data available |
| Water solubility | Completely soluble in water |
| Partition coefficient: n-octanol /water | no data available |
| Relative vapor density | no data available |
| Odour | no odor |
| Odour Threshold | no data available |
| Evaporation Rate | no data available |

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Will not occur.

Conditions to avoid

None

Materials to avoid

Acids, strong reducing agents, alcohol

Hazardous decomposition products

Sodium oxides and chromium oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

| | |
|------------------------------|--|
| Skin | LD50 Dermal 1000 mg/kg (rabbit) |
| Eyes | Not Available |
| Respiratory Ingestion | LD50/Inhalation 0.124 mg/L 4 hrs (rat) LD50 Oral – rat – 50 mg/kg |

Carcinogenicity

| | |
|--------------|--|
| IARC | Group 1 Carcinogen (sodium dichromate) |
| ACGIH | Known Carcinogen (sodium dichromate) |
| NTP | Known Carcinogen (sodium dichromate) |
| OSHA | 29CFR1910.1026 (sodium dichromate) |

| | |
|---------------------------------------|---|
| Skin | Causes skin burns. May be absorbed through skin. Contact causes redness, burns, itching and pain. Prolonged or repeated skin exposure may cause dermatitis. |
| Eyes | May cause eye burns. Symptoms include eye burns, pain, watering eyes. |
| Respiratory | May be fatal if inhaled. Causes burns to the respiratory tract. Symptoms include coughing, shortness of breath, burning, choking, wheezing, laryngitis, headache or nausea. |
| Ingestion | May be fatal if swallowed Causes burns. |
| Chronic Toxicity | This is or contains a component that has been reported to be carcinogenic based on its IARC, OSHA, ACHIGH, NTP or EPA classification. |
| Teratogenicity | May alter genetic material. |
| Mutagenicity | Investigated as a mutagen. |
| Embryotoxicity | May cause reproductive disorders. |
| Specific Target Organ Toxicity | Not Available |

12. ECOLOGICAL INFORMATION

Ecotoxicity

Persistence and degradability

no data available

Bioaccumulative potential

Accumulates

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Aquatic Vertebrate

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

Aquatic Invertebrate

no data available

Terrestrial

no data available

13. DISPOSAL CONSIDERATIONS

Waste Residues

Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste products or residues.

Product Containers

Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 3287 Class: 6.1 Packing group: III
Proper shipping name: Toxic liquid, inorganic, n.o.s. (Sodium Dichromate Solution)
Pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number:3287 Class: 6.1 Packing group: III
Proper shipping name: Toxic liquid, inorganic, n.o.s. (Sodium Dichromate Solution)

IATA

UN number:3287 Class: 6.1 Packing group: III
Proper shipping name: Toxic liquid, inorganic, n.o.s. (Sodium Dichromate Solution)

15. REGULATORY INFORMATION

| | |
|---------------------------|---|
| TSCA Inventory Status | All ingredients are listed on the TSCA inventory |
| DSDL (EEC) | All ingredients are listed on the DSDL inventory |
| California Proposition 65 | Yes, Chromium compounds, cancer. |
| SARA 302 | Listed: Sodium Dichromate |
| SARA 304 | Listed: Sodium Dichromate |
| SARA 311 | Sodium Dichromate |
| SARA 312 | Sodium Dichromate |
| SARA 313 | Listed: Sodium Dichromate |
| WHMIS Canada | CLASS C: Oxidizing material CLASS D-2A Material causing other toxic effects (VERY TOXIC) |

16. OTHER INFORMATION

Further information

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. Sentury Reagents, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product.