



ALDON CORPORATION

MATERIAL SAFETY DATA SHEET

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MSDS No. SS 460
Effective Date April 29, 1999

SECTION V HEALTH HAZARD DATA

SS 460

Threshold Limited Value TWA as Chromium (VI) compounds, as Chromium water soluble 0.05 mg/m³ (ACGIH 1992-93). PEL: 0.1 mg/m³ (CEIL) as CrO₃ Toxicity Data: orl-rat LD50 52 mg/kg. dermal-rabbit LD50 1.8 g/kg. inhalation-rat 104 mg/m³.

Effects of Overexposure **TARGET ORGANS AFFECTED:** Blood, lungs, liver, kidneys, gastrointestinal system. **INHALATION:** Chromate dusts or mists can cause ulceration and perforation of the nasal septum, as well as irritation and ulceration of the respiratory system. Overexposure to hexavalent chromium may cause lung cancer-risk. **INGESTION:** Can be harmful or fatal if swallowed. Toxic effects may not appear right away. A systemic poison; chromates are primarily toxic to the kidneys, liver, and gastrointestinal tract. **SKIN:** Dusts and solutions can cause irritation. Contact with breaks in the skin can cause "chrome sores" (skin ulcers). Chromates are skin sensitizers. Skin absorption has been reported. **EYES:** Dusts, mists or solutions can cause severe irritation and conjunctivitis.

Emergency and First Aid Procedures **SKIN:** Flush thoroughly with water, then wash with mild soap and water. Remove contaminated clothing and shoes. Seek medical attention. **EYES:** Flush thoroughly with water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get immediate medical attention. **INGESTION:** If swallowed, if conscious, give large quantities of water to drink. Induce vomiting and call a physician immediately. Never give anything by mouth to an unconscious person. **INHALATION:** Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention.

SECTION VI REACTIVITY DATA

| | | | | |
|------------------|-----------------|---|----------------------------|------------------------|
| Stability | Unstable | | Conditions to Avoid | Excessive temperature. |
| | Stable | X | | |

Incompatibility (Materials to Avoid) May react with easily oxidizable/combustible materials especially at elevated temperatures, organic materials. May react with strong acids to give off heat.

Hazardous Decomposition Products May produce chromic oxide or other oxides of chromium which may be hazardous. Sodium hydroxide or sodium oxide may also be produced.

| | | | |
|---------------------------------|----------------------------|-----------------------|-----------------|
| Hazardous Polymerization | Conditions to Avoid | | Not applicable. |
| | May Occur | Will Not Occur | |
| | | X | |

SECTION VII SPILL OR LEAK PROCEDURES

Steps to be taken in case material is released or spilled Wearing suitable protective clothing, sweep up material and place in metal container for reclamation or disposal. Do not return to original container. Cautiously spray residue with plenty of water. Recover resulting solution or slurry by absorbing on vermiculite for disposal. Keep out of sewer. Any release to the environment of this product may be subject to Federal and/or state reporting requirements. Check with appropriate agencies.

Waste Disposal Method Discharge, treatment, or disposal may be subject to Federal, State or Local laws. These disposal guidelines are intended for the disposal of catalog-size quantities only.

Sodium chromate must not be discharged into sewers or navigable waters or allowed to contaminate underground water sources. If reclamation is not possible, contact local waste disposal contractor.

SECTION VIII SPECIAL PROTECTION INFORMATION

Respiration Protection (Specify Type) None needed in normal laboratory handling. If dusty conditions prevail, work in ventilation hood or wear a NIOSH/MSHA-approved respirator.

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|--------------------|-----------------------------|------|----------------|-----|
| Ventilation | Local Exhaust | Yes. | Special | No. |
| | Mechanical (General) | Yes. | Other | No. |

| | | | |
|--------------------------|---------|-----------------------|--------------------------|
| Protective Gloves | Rubber. | Eye Protection | Chemical safety glasses. |
|--------------------------|---------|-----------------------|--------------------------|

Other Protective Equipment Goggles, lab coat, apron, proper gloves, rubber boots, eye wash station, ventilation hood, safety shower.

SECTION IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling & Storing Store in a cool, dry, well-ventilated area away from reducing agents, heat and combustible materials. Wash thoroughly after handling. Remove and wash contaminated clothing. Keep container tightly closed when not in use.

Other Precautions Read label on container before using. Do not wear contact lenses when working with chemicals. Empty containers should be rinsed before disposal. Rinse water should be treated (See "Waste Disposal"), if not used in process. Worker's exposed to chromium chemicals should avoid leather shoes and gloves as they become impregnated with the material. Do not reuse or recycle container.

For laboratory use only. Not for drug, food or household use. Keep out of reach of children.

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| Revision No. 7 | Date 4/29/99 | Approved Michael Raszeja | Chemical Safety Coordinator MR |
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The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. * Hazardous Materials Industrial Standards. Printed on recycled paper.

SECTION I NAME 24 HOUR EMERGENCY ASSISTANCE

| | | |
|--------------------------|---|--|
| Product | SODIUM CHROMATE, TETRAHYDRATE | CHEMTREC 800-424-9300 Day 716-226-6177 NFPA HAZARD RATING LEAST SLIGHT MODERATE HIGH EXTREME 0 1 2 3 4 HMIS * HEALTH FIRE REACTIVITY 4 0 2 |
| Chemical Synonyms | Tetrahydrate Sodium Chromate | |
| Formula | Na ₂ CrO ₄ •4H ₂ O | |
| Unit Size | up to 2.5 Kg. | |
| C.A.S. No. | 10034-82-9 | |

SECTION II INGREDIENTS OF MIXTURES

| Principal Component(s) | % | TLV Units |
|--|------|----------------|
| Sodium Chromate, Tetrahydrate | 100% | See Section V. |
| DANGER! POISON. HARMFUL DUST. HARMFUL IF INHALED OR SWALLOWED. CAUSES BURNS TO SKIN AND EYES. MAY CAUSE RASH OR EXTERNAL ULCERS. CANCER SUSPECT AGENT. * | | |

SECTION III PHYSICAL DATA

| | | | |
|------------------------|--|---|--------------|
| Melting Point (°F) | 792°C (1458°F) | Specific Gravity (H ₂ O = 1) | 2.723 @ 25°C |
| Boiling Point (°F) | N/A | Percent Volatile by Volume (%) | N/A |
| Vapor Pressure (mm Hg) | N/A | Evaporation Rate (=1) | N/A |
| Vapor Density (Air=1) | N/A | | |
| Solubility in Water | 66.3% w/w @ 25°C (77°F). | | |
| Appearance & Odor | Bright yellow crystals; no odor. Deliquescent. | | |

SECTION IV FIRE AND EXPLOSION HAZARD DATA

| | | | | | |
|----------------------------------|---|--|-----|--------------|--------------|
| Flash Point (Method Used) | Non-flammable. | Flammable Limits in Air % by Volume | N/A | Lower | Upper |
| Extinguisher Media | This product is not flammable. Choice of extinguishing media should be based on the other materials involved in the fire. | | | | |

SPECIAL FIREFIGHTING PROCEDURES In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Water runoff may contain hexavalent chromium and should not be allowed to enter sewers or waterways.

(1996 EMERGENCY RESPONSE GUIDEBOOK, DOT P 5800.7, GUIDE PAGE NO. 151)

UNUSUAL FIRE AND EXPLOSION HAZARDS This product may act as an oxidizing agent to sustain a fire involving organic matter or other easily oxidizable materials.

* Hexavalent chromium compounds in the form of chromates and dichromates have been found to be mutagenic in bacterial and mammalian cells, including those of the chinese hamster. Recent studies indicate a significant risk of lung cancer among long term employees of the chromate-producing industry.

* RTECS # GB2955000
CARCINOGENIC REVIEW: Human Positive. Animal Indefinite

D.O.T. Toxic solid, inorganic, n.o.s., (Sodium chromate), 6.1, UN 3288, PG III

Approved by U.S. Department of Labor "essentially similar" to form OSHA-20