



## Material Safety Data Sheet Chromic Acid

### Section 1 - Chemical Product and Company Identification

**MSDS Name:**

Chromic Acid

**Catalog Numbers:**

LC13090

**Synonyms:**

Chromium (VI) oxide; Chromic anhydride; Chromium (VI) oxide; Chromium trioxide.

**Company Identification:**

LabChem Inc

200 William Pitt Way

Pittsburgh, PA 15238

**Company Phone Number:**

(412) 826-5230

**Emergency Phone Number:**

(800) 424-9300

**CHEMTREC Phone Number:**

(800) 424-9300

### Section 2 – Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
1333-82-0	Chromium trioxide	100

### Section 3 - Hazards Identification

#### Emergency Overview

**Appearance:** Dark red to purple solid.

**Danger!** Toxic if swallowed, inhaled or absorbed through the skin. Strong oxidizer. Contact with other material may cause a fire. Causes burns by all exposure routes. May cause allergic respiratory and skin reaction. Harmful if swallowed. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Cancer hazard. Possible risk of impaired fertility. May cause heritable genetic damage.

**Target Organs:** Blood, kidneys, liver, lungs, respiratory system, gastrointestinal system, eyes, skin, mucous membranes.

#### Potential Health Effects

**Eye:**

Causes severe eye burns. May cause irreversible eye injury. Causes redness and pain. May cause permanent corneal opacification.

**Skin:**

Harmful if absorbed through the skin. Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause deep, penetrating ulcers of the skin. Causes redness and pain. Chronic exposure to water insoluble hexavalent



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chromium compounds has been shown to be associated with lung cancer and gastrointestinal tract tumors. Substance is readily absorbed through the skin.

### **Ingestion:**

Harmful if swallowed. May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause liver and kidney damage. Exposure may cause anemia and other blood abnormalities. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). May cause systemic effects.

### **Inhalation:**

May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. May cause asthmatic attacks due to allergic sensitization of the respiratory tract. Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Prolonged exposure to dusts, vapors, or mists may result in the perforation of the nasal septum. May cause systemic effects.

### **Chronic:**

Prolonged or repeated inhalation may cause nosebleeds, nasal congestion, erosion of the teeth, perforation of the nasal septum, chest pain and bronchitis. Prolonged or repeated eye contact may cause conjunctivitis. Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration. Chronic ingestion may cause effects similar to those of acute ingestion. May cause liver and kidney damage. Chronic exposure to water insoluble hexavalent chromium compounds has been shown to be associated with lung cancer and gastrointestinal tract tumors. Adverse reproductive effects have been reported in animals. Possible risk of harm to the unborn child. Confirmed Human Carcinogen. May impair fertility.

## Section 4 - First Aid Measures

### **Eyes:**

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

### **Skin:**

Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

### **Ingestion:**

Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.

### **Inhalation:**

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. Do NOT use mouth-to-mouth resuscitation.

### **Notes to Physician:**

Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

### **General Information:**

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Wear



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appropriate protective clothing to prevent contact with skin and eyes. Wear a self-contained breathing apparatus (SCBA) to prevent contact with thermal decomposition products. Containers may explode in the heat of a fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

### **Extinguishing Media:**

Use extinguishing media most appropriate for the surrounding fire. Contact professional fire fighters immediately. Cool containers with flooding quantities of water until well after fire is out. May require flooding with water in order to eliminate hazardous reactions since the materials generate their own oxygen.

### **Autoignition Temperature:**

None available.

### **Flash Point:**

250°C (482°F)

### **NFPA Rating:**

(estimated) Health: 3; Flammability: 0; Instability: 0

### **Explosion Limits:**

Lower: n/a      Upper: n/a

## Section 6 - Accidental Release Measures

### **General Information:**

Use proper personal protective equipment as indicated in Section 8.

### **Spills/Leaks:**

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation. Do not use combustible materials such as paper towels to clean up spill.

## Section 7 - Handling and Storage

### **Handling:**

Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Do not breathe dust, mist, or vapor. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Avoid contact with clothing and other combustible materials. Do not ingest or inhale. Use with adequate ventilation. Discard contaminated shoes.

### **Storage:**

Do not store near combustible materials. Keep container closed when not in use. Store in a cool, dry, well-ventilated location. Separate from combustible materials, halogens, sulfides, metals. See also NFPA 430, Code for the Storage of Liquid and Solid Oxidizers.

## Section 8 - Exposure Controls, Personal Protection

### **Engineering Controls:**

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.



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### Exposure Limits:

Chemical Name:	ACGIH	NIOSH	OSHA
Chromium trioxide	0.05 mg/m <sup>3</sup> TWA (as Cr) (listed under Chromium (VI) compounds- water soluble).	0.001 mg/m <sup>3</sup> TWA (as Cr) 15 mg/m <sup>3</sup> IDLH (as Cr(VI)).	5 æg/m <sup>3</sup> TWA (listed under Chromium (VI) compounds), 2.5 æg/m <sup>3</sup> Action Level (as Cr.); 5 æg/m <sup>3</sup> TWA (as Cr. Cancer hazard - See 29 CFR 1910.1026) (listed under Chromium (VI) compounds).

### OSHA Vacated PELs:

Chromium trioxide: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

#### Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

#### Skin:

Wear appropriate gloves to prevent skin exposure.

#### Clothing:

Wear appropriate protective clothing to prevent skin exposure.

#### Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

<b>Physical State:</b>	Solid
<b>Color:</b>	Dark red to purple
<b>Odor:</b>	Odorless
<b>pH:</b>	<1.0 (50g/l aq. sol.)
<b>Vapor Pressure:</b>	Not available
<b>Vapor Density:</b>	3.4
<b>Evaporation Rate:</b>	Not available
<b>Viscosity:</b>	No information
<b>Boiling Point:</b>	482°F
<b>Freezing/Melting Point:</b>	385°F
<b>Decomposition Temperature:</b>	482°F
<b>Solubility in water:</b>	Soluble
<b>Specific Gravity/Density:</b>	2.7 (Water=1)
<b>Molecular Formula:</b>	CrO <sub>3</sub>
<b>Molecular Weight:</b>	99.99

## Section 10 - Stability and Reactivity

### Chemical Stability:

Stable under normal temperatures and pressures.



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### Conditions to Avoid:

Incompatible materials, dust generation, moisture, excess heat.

### Incompatibilities with Other Materials:

Metals, reducing agents, combustible materials, halogens, sulfides, pyridine, dimethyl formamide, acetic acid, acetic anhydride, acetone, diethyl ether, ethanol, methanol, camphor, glycerol, turpentine, organics, attacks metals in the presence of moisture, Aqueous solution is strongly acidic. Can ignite organic matter on contact., bases, alcohols, alkali metals, ammonia, chlorine trifluoride, finely powdered metals, diethyl formamide, phosphorus, hydrocarbons, ketones.

### Hazardous Decomposition Products:

Chromium fumes, possible trivalent chromium formation with liberated oxygen.

### Hazardous Polymerization:

Has not been reported.

## Section 11 - Toxicological Information

### RTECS:

CAS# 1333-82-0: GB6650000

### LD50/LC50:

CAS# 1333-82-0:

Oral, mouse: LD50 = 127 mg/kg;

Oral, rat: LD50 = 80 mg/kg;

Inhalation, human: TClO: = 110ug/m<sup>3</sup>.

### Carcinogenicity:

CAS# 1333-82-0:

- **ACGIH:** A1 - Confirmed Human Carcinogen (listed as 'Chromium (VI) compounds- water soluble').
- **California:** carcinogen, initial date 2/27/87 (listed as Chromium (VI) compounds).
- **NTP:** Known carcinogen
- **IARC:** Group 1 carcinogen

### Epidemiology:

No information found

### Teratogenicity:

No information found

### Reproductive:

Adverse reproductive effects have occurred in experimental animals.

### Mutagenicity:

See actual entry in RTECS for complete information. Mutagenic effects have occurred in experimental animals. Mutagenic effects have occurred in humans.

### Neurotoxicity:

No information found

## Section 12 - Ecological Information

No information found.

## Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.



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### Section 14 - Transport Information

#### US DOT

**Shipping Name:** Chromium trioxide, anhydrous  
**Hazard Class:** 5.1  
**UN Number:** UN1463  
**Packing Group:** II

### Section 15 - Regulatory Information

#### US Federal

##### TSCA:

CAS# 1333-82-0 is listed on the TSCA inventory.

##### SARA Reportable Quantities (RQ):

None of the chemicals in this material have an RQ.

##### CERCLA/SARA Section 313:

This material contains Chromium trioxide (listed as Chromium (VI) compounds), 100%, (CAS# 1333-82-0) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

##### OSHA - Highly Hazardous:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### US State

##### State Right to Know:

CAS# 1333-82-0 can be found on the following state right to know lists: New Jersey, Pennsylvania, Minnesota, (listed as Chromium (VI) compounds- water soluble), Minnesota, (listed as Chromium (VI) compounds), Massachusetts.

##### California Regulations:

WARNING: This product contains Chromium trioxide, listed as 'Chromium (VI) compounds', a chemical known to the state of California to cause cancer.

#### European/International Regulations

##### Canadian DSL/NDSL:

CAS# 1333-82-0 is listed on Canada's DSL List.

##### Canada Ingredient Disclosure List:

CAS# 1333-82-0 is listed on the Canadian Ingredient Disclosure List.

### Section 16 - Other Information

MSDS Creation Date: November 13, 2007

Revision Date: December 4, 2007

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