

Chromic Acid

SECTION 1. IDENTIFICATION

Product Identifier	Chromic Acid
Other Means of Identification	Chromium Trioxide, Chromium (VI) Oxide
Product Code	CH4010, CH4015, CH4020
Product Family	Inorganic Solid
Recommended Use	Laboratory and industrial use.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours
SDS No.	0170

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

Oxidizing solid - Category 2; Acute toxicity (Oral) - Category 2; Acute toxicity (Dermal) - Category 2; Acute toxicity (Inhalation) - Category 2; Skin corrosion - Category 1A; Serious eye damage - Category 1; Carcinogenicity - Category 1A

Label Elements



Signal Word:
Danger

Hazard Statement(s):

May cause or intensify fire; oxidizer.
Toxic if swallowed or in contact with skin.
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.
Suspected of damaging fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.

Precautionary Statement(s):

Keep away from heat, sparks, open flames, and hot surfaces. – No smoking.
Keep or store away from clothing and other combustible materials.

Take any precaution to avoid mixing with combustibles.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash hands thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN: Wash with plenty of water.

IF INHALED: Remove person to fresh air and keep 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 CENTRE or doctor.

In case of fire: Evacuate area.

Store in a well-ventilated place.

Other Hazards

Hazardous to the environment.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance:

Chemical Name	CAS No.	%	Other Identifiers
Chromium trioxide	1333-82-0	>99	Chromic Acid, Chromium (VI) Oxide

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor.

Skin Contact

Quickly and gently blot or brush away excess chemical. Immediately rinse with lukewarm, gently flowing water for 15-20 minutes.

Eye Contact

Quickly and gently blot or brush chemical off the face. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for at least 30 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

Ingestion

Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Rinse mouth with water. Immediately call a Poison Centre or doctor.

First-aid Comments

Some of the first-aid procedures recommended here require advanced first-aid training. If exposed or concerned, get medical advice or attention.

Most Important Symptoms and Effects, Acute and Delayed

If on skin: repeated or prolonged exposure can irritate the skin. Symptoms include pain, redness, and swelling. Skin sensitizer. May cause an allergic skin reaction in some people.

If swallowed: can irritate the mouth, throat and stomach. Liver function tests may show abnormal results.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice

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

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

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Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire. Use flooding quantities of water spray or fog.

Unsuitable Extinguishing Media

DO NOT use carbon dioxide, or other agents that smother the flames.

Specific Hazards Arising from the Product

Oxidizer. May intensify fire. Releases oxygen to create an oxygen-rich atmosphere. Will cause combustible materials to ignite more readily. Heating increases the release of toxic vapour. Closed containers may rupture violently when heated releasing contents.

In a fire, the following hazardous materials may be generated: flammable chemicals.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Fight fire from a protected, explosion-resistant location or maximum distance possible. Approach fire from upwind to avoid hazardous vapours or gases. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles. Oxidizer. Prevent contact with flammable and combustible materials. Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet. Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Evacuate downwind locations. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Increase ventilation to area or move leaking container to a well-ventilated and secure area.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Contain and soak up spill with absorbent that does not react with spilled product. Collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal. Flush spill area. Do not return spilled product to its original container. Large spills or leaks: dike spilled product to prevent runoff.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Do not get in eyes, on skin or on clothing. Prevent accidental contact with incompatible chemicals. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid generating dusts. Only use where there is adequate ventilation.

Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, separate from incompatible materials (see Section 10: Stability and Reactivity). Keep amount in storage to a minimum. Store in a closed container. Comply with all applicable health and safety regulations, fire and building codes.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Chromium trioxide	0.05 mg/m3 A1			0.1 mg/m3		

A1 = Confirmed human carcinogen.

Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Provide eyewash and safety shower if contact or splash hazard exists.

Individual Protection Measures

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Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: butyl rubber, polyethylene, polyvinyl chloride, Viton®.

The following materials should NOT be used: natural rubber, neoprene rubber, polyvinyl alcohol.

Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**Basic Physical and Chemical Properties**

Appearance	Dark red powder.
Odour	Not available
Odour Threshold	Not available
pH	1.1 (1% solution)
Melting Point/Freezing Point	197 - 198 °C (387 - 388 °F) (melting); Not available (freezing)
Initial Boiling Point/Range	Not applicable
Flash Point	Not applicable
Evaporation Rate	Not applicable
Flammability (solid, gas)	Will not burn.
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not applicable
Relative Density (water = 1)	2.70 at 25 °C
Solubility	62.5 g/100 mL (Very soluble) in water; Soluble in all proportions in alcohols (e.g. ethanol).
Partition Coefficient, n-Octanol/Water (Log Kow)	2.23 (estimated)
Auto-ignition Temperature	Not applicable
Decomposition Temperature	250 °C (482 °F)
Viscosity	Not applicable (kinematic); Not applicable (dynamic)
Other Information	
Physical State	Solid

SECTION 10. STABILITY AND REACTIVITY**Reactivity**

Mild oxidizer. May intensify fire.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Generation of dust. Open flames, sparks, static discharge, heat and other ignition sources.

Incompatible Materials

Alcohols (e.g. ethanol), aldehydes (e.g. acetaldehyde), metals (e.g. aluminum), strong reducing agents (e.g. hydrides), strong bases (e.g. sodium hydroxide), ethers (e.g. diethyl ether).

Hazardous Decomposition Products

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Oxygen (a strong oxidizer).

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Chromium trioxide	217 mg/m ³ (rat) (4-hour exposure)	48 mg/kg (female rat)	57 mg/kg (rabbit)

Skin Corrosion/Irritation

Human experience and animal tests show skin corrosion.

Serious Eye Damage/Irritation

Human experience and animal tests show serious eye damage.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Causes severe nose and throat irritation. Symptoms may include coughing, shortness of breath, difficult breathing and tightness in the chest.

Skin Absorption

No information was located.

Ingestion

Causes severe irritation or burns to the mouth, throat and stomach. Blood function tests may show abnormal results. Harmful effects on the liver.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Following skin contact:

Causes areas of skin to darken. Symptoms may include dry, red, cracked skin (dermatitis).

If inhaled:

Irritation of the respiratory system. May cause respiratory tract injury. Symptoms may include shortness of breath, rapid breathing, and coughing. The ability to do some physical activities can be reduced. If swallowed:

Liver function tests may show abnormal results.

Respiratory and/or Skin Sensitization

Respiratory sensitizer. In sensitized people, exposure to a very small amount of product can cause symptoms including wheezing, difficult breathing, sneezing and runny or blocked nose. Can cause death. Symptoms can develop immediately following exposure or hours later. Repeated exposure will make the reaction worse.

May cause an allergic reaction (skin sensitization) based on limited evidence.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Chromium trioxide	Group 1	A1	Known carcinogen	

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Key to Abbreviations

IARC = International Agency for Research on Cancer.
Group 1 = Carcinogenic to humans.

ACGIH® = American Conference of Governmental Industrial Hygienists.
A1 = Confirmed human carcinogen.

NTP = National Toxicology Program.
Known carcinogen = Known human carcinogen.

Reproductive Toxicity

Development of Offspring

May harm the unborn child.

Sexual Function and Fertility

May cause effects on sexual function and/or fertility.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

May be mutagenic based on limited evidence.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

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

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
Canadian TDG	UN1463	CHROMIUM TRIOXIDE, ANHYDROUS	5.1	II
US DOT	UN1463	CHROMIUM TRIOXIDE, ANHYDROUS	5.1	II

Environmental Hazards Not applicable

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

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NFPA Rating	Health - 3	Flammability - 0	Instability - 1
SDS Prepared By	Alphachem Limited		
Phone No.	(905)-821-2995		
Date of Preparation	October 16, 2015		
Date of Last Revision	March 30, 2016		
References	CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).		
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