

Chromium Trioxide, Flake Technical

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Chromium Trioxide, Flake Technical

Synonyms/Generic Names: Chromium trioxide, Chromic anhydride, Monochromium trioxide

Product Number: C1022

Product Use: Industrial, Manufacturing or Laboratory use

Supplier: Rocky Mountain Reagents, Inc.
4621 Technology Drive, Golden, CO 80403
Phone: (303) 762-0800 Fax: (303) 762-1240

Emergency Phone Number: (800) 255-3924 (CHEM-TEL)

2. HAZARDS IDENTIFICATION

OSHA Hazards: Oxidizer, Target organ effect, Toxic by ingestion, Highly toxic by skin absorption, Respiratory sensitizer, Corrosive, Carcinogen, Teratogen, Reproductive hazard, Mutagen

Target Organs: Kidneys, Lungs, Liver, Nerves, Blood, Eyes, Skin, Respiratory system

Signal Words: Danger

Pictograms:



GHS Classification:

Oxidizing solids	Category 1
Acute toxicity, Oral	Category 3
Acute toxicity, Dermal	Category 2
Acute toxicity, Inhalation	Category 2
Skin corrosion	Category 1A
Serious eye damage	Category 1
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 1B
Carcinogenicity	Category 1A
Reproductive toxicity	Category 2
Specific target organ toxicity-repeated exposure, Inhalation	Category 1
Acute aquatic toxicity	Category 1

GHS Label Elements, including precautionary statements:**Hazard Statements:**

H271	May cause fire or explosion; strong oxidizer.
H301	Toxic if swallowed.
H310+H330	Fatal in contact with skin or if inhaled.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H340	May cause genetic defects.
H350	May cause cancer.
H361	Suspected of damaging fertility or the unborn child.
H372	Causes damage to organs through prolonged or exposure if inhaled.
H400	Very toxic to aquatic life.

Precautionary Statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P220	Keep/Store away from clothing and other combustible materials.
P221	Take any precaution to avoid mixing with combustibles.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P262	do not get in eyes, on skin, or on clothing.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P283	Wear fire/flammable resistant/retardant clothing.
P284	In case of inadequate ventilation, wear respiratory protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do not induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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/doctor/physician.
P363	Wash contaminated clothing before reuse.
P371+P380+P375	In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

Potential Health Effects

Eyes	Causes severe eye burns.
Inhalation	Harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	May be fatal if absorbed through skin. Causes skin burns.
Ingestion	Toxic if swallowed.

NFPA Ratings

Health	4
Flammability	0
Reactivity	2
Specific hazard	OX

HMIS Ratings

Health	4
Fire	0
Reactivity	2
Personal	J

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Chromium Trioxide	>99	1333-82-0	215-607-8	CrO ₃	63.99 g/mol

4. FIRST-AID MEASURES

Eyes	Immediately rinse with plenty of water for at least 15 minutes and seek medical attention immediately.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
Skin	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.
Ingestion	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

Suitable (and unsuitable) extinguishing media	Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific 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, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

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

Conditions for safe storage, including any incompatibilities

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
Chromic acid	0.05 mg/m ³ (Cr)	TLV	ACGIH
	0.1 mg/m ³ (CrO ₃)	STEL	OSHA
	0.001 mg/m ³ (Cr(VI))	REL	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

CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses or goggles with face shield.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, and complete body suit.
Other	Not Available

Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Dark red crystals, flakes or powder.
Odor	Odorless.
Odor threshold	Not Available
pH	1.1 (1% soln/water)
Melting point/freezing point	197°C (387°F)
Initial boiling point and boiling range	Not Available
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	Not Available
Density	Not Available

Solubility (ies)	Soluble in water, diethyl ether, ethyl alcohol, nitric acid, acetic acid, acetone, sulfuric acid.
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

10. STABILITY AND REACTIVITY

Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Heat and moisture.
Incompatible Materials	Organic materials, phosphorus, powdered metals.
Hazardous Decomposition Products	Chromium oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Chromium Trioxide

Skin	LD50 – Rabbit – 57 mg/kg Skin – Rabbit – Result: Corrosive - 24 h
Eyes	Eyes – Rabbit – Result: Corrosive
Respiratory	LC50 – Rat – 21.7 mg/kg
Ingestion	LD50 – Rat – 80 mg/kg

Carcinogenicity

IARC	1-Group 1: Carcinogenic to humans (Chromium trioxide).
ACGIH	A1: Confirmed for human (Chromium trioxide).
NTP	Known to be human carcinogen (Chromium trioxide).
OSHA	1910.1026 (Chromium trioxide).

Signs & Symptoms of Exposure

Skin	Redness, burns, itching, pain.
Eyes	Burns, watering eyes, pain.
Respiratory	Coughing, shortness of breath, burning, choking, wheezing, headache.
Ingestion	Burns, nausea, vomiting, pain, severe diarrhea.

Chronic Toxicity	Adverse reproductive effects. Affect genetic material. May cause cancer.
Teratogenicity	May alter genetic material.
Mutagenicity	May alter genetic material. In vivo tests showed mutagenic effects.
Embryotoxicity	May cause reproductive disorders.
Specific Target Organ Toxicity	Kidneys, liver, gastrointestinal tract, upper respiratory tract, skin, eyes. Causes severe respiratory tract irritation.
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chromium Trioxide

Aquatic Vertebrate	LC50 – Tilapia mossambica – 21-141 mg/L – 96h LC50 – Leuciscus idus – 100 mg/L – 48h
Aquatic Invertebrate	EC50 – Daphnia magna – 0.8 mg/L – 48h
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

Waste Product or 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 product or residue.
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.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN1463, Chromium trioxide, anhydrous, 5.1, (6.1), (8), pg II
TDG	UN1463, CHROMIUM TRIOXIDE, ANHYDROUS, 5.1, (6.1), (8), pg II
IMDG	UN1463, CHROMIUM TRIOXIDE, ANHYDROUS, 5.1, (6.1), (8), pg II
Marine Pollutant	Yes
IATA/ICAO	UN1463, Chromium trioxide, anhydrous, 5.1, (6.1), (8), pg II

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Listed: Chromium Trioxide
SARA 302	Listed: Chromium Trioxide
SARA 304	Listed: Chromium Trioxide
SARA 311	Reactivity hazard, Acute health hazard, Chronic health hazard.
SARA 312	Reactivity hazard, Acute health hazard, Chronic health hazard.
SARA 313	Listed: Chromium Trioxide
WHMIS Canada	Class C: Oxidizing material. Class D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). Class D-2A: Material causing other toxic effects (VERY TOXIC). Class E: Corrosive solid.

16. OTHER INFORMATION

Revision	Date
Revision 1	10/14/2015

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