

SAFETY DATA SHEET

Section 1: Identification

Product name: Chromium(III) chloride hexahydrate
Product use: For laboratory research purposes.
Supplier: Trace Sciences International
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Richmond Hill, ON L4B 3N6
CANADA
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Section 2: Hazard(s) Identification

2.1 GHS Classification

Corrosive to Metals (Category 1), H290
Acute toxicity, Oral (Category 4), H302
Skin sensitization (Sub-category 1B), H317
Short-term (acute) aquatic hazard (Category 2), H401
Long-term (chronic) aquatic hazard (Category 2), H411

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s):

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s):

P234 Keep only in original packaging.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P390 Absorb spillage to prevent material damage.
P391 Collect spillage.
P501 Dispose of contents/ container to an approved waste disposal plant.

Section 3: Composition/ Information on Ingredients

Formula : CrCl₃ · 6 H₂O
Molecular Weight : 266.45 g/mol

Material	CAS-No.	EC-No.	Index-No.	Concentration
Chromium(III) chloride hexahydrate	10060-12-5	233-038-3	-	<=100%

Section 4: First-Aid Measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move person out of dangerous area if safe to do so.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15 minutes. Use chemical shower if available. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Remove contacts if possible.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5: Fire-Fighting Measures

5.1 Conditions of flammability

Not flammable or combustible.

5.2 Suitable extinguishing media

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

5.3 Hazardous combustion products

Hazardous decomposition products formed under fire conditions: Hydrogen chloride gas, chromium oxides

5.4 Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.5 Further information

No data available

Section 6: Accidental Release Measures

6.1 Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

7.2 Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Section 8: Exposure Controls/Personal Protection

8.1 Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Chromium trichloride hexahydrate	10060-12-5	TWA	0.5 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	0.5 mg/m ³	Canada. British Columbia OEL
		TWAEV	0.5 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants

Remarks

Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.

8.2 Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Specific engineering controls

Use mechanical exhaust or laboratory fume hood to avoid exposure.

Section 9: Physical and Chemical Properties

Appearance

Form	Powder/Crystals
Colour	Purple

Safety Data

pH	2.4 - 2.6 at 50 - 53 g/l at 20 °C (68 °F)
Melting point/freezing point	83 °C (181 °F) - 1,152 °C (2,106 °F) at 1,013 hPa (anhydrous)
Boiling point	no data available
Flash point	Not applicable
Flammability (solid, gas)	Not applicable
Ignition temperature	Not applicable
Auto-ignition temperature	Not applicable
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	Not applicable
Density	1.76 g/mL at 25 °C (77 °F)
Water solubility	590 g/l at 20 °C (68 °F)
Partition coefficient: n-octanol/water	Not applicable
Relative vapour density	Not applicable
Odour	Stinging
Odour Threshold	Not applicable
Evaporation rate	Not applicable

Section 10: Stability and Reactivity

10.1 Chemical stability

Stable under recommended storage conditions

10.2 Possibility of hazardous reactions

Exothermic reaction with:
Fluorine, alkali metals, lithium

10.3 Conditions to avoid

No data available

10.4 Materials to avoid

Oxidizing agents

10.5 Hazardous decomposition products

See section 5

Section 11: Toxicological Information

Acute toxicity

Oral

LD50 Oral - Rat - 1,790 mg/kg

Remarks: (RTECS)

Inhalation

No data available

Dermal

No data available

Other information on acute toxicity

No data available

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Remarks: The value is given in analogy to the following substances: chromium(III) chloride

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

(OECD Test Guideline 405)

Remarks: The value is given in analogy to the following substances: chromium(III) chloride

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: positive

The product is a skin sensitizer, sub-category 1B.

(OECD Test Guideline 406)

Remarks: The value is given in analogy to the following substances: chromium(III) chloride

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Method: OECD Test Guideline 473

Result: negative

Remarks: The value is given in analogy to the following substances: chromium(III) chloride

Type: Mutagenicity (mammal cell test): micronucleus.

Test system: Chinese hamster ovary cells

Result: negative

Remarks: (ECHA) The value is given in analogy to the following substances: chromium(III) chloride

Test Type: sister chromatid exchange assay

Test system: Chinese hamster ovary cells

Method: OECD Test Guideline 479

Result: negative

Remarks: The value is given in analogy to the following substances: chromium(III) chloride

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Signs and Symptoms of Exposure

No data available

Additional Information

RTECS: GB5450000

Section 12: Ecological Information

12.1 Toxicity

Toxicity to fish	Static test LC50 - Oncorhynchus mykiss (rainbow trout) - 11.2 - 31.5 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	Static test EC50 - Daphnia similis (Water flea) - 9.9 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	ErC50 - Scenedesmus capricornutum (fresh water algae) - 2.0 mg/l - 96 h (OECD Test Guideline 201)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	Semi-static test NOEC - Daphnia magna (Water flea) - 3.4 mg/l - 21 d (OECD Test Guideline 211)

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

Section 13: Disposal Considerations

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

Section 14: Transport Information

IATA

UN number: UN3260 Class: 8 Packing group: III
Proper shipping name: Corrosive solid, acidic, inorganic, n.o.s. (Chromium trichloride hexahydrate)

Section 15: Regulatory Information

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

Section 16: Other Information

Further information

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for his or her particular purpose(s).

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