

CHROMIUM (III) CHLORIDE HEXAHYDRATE

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1. Product Identification

Synonyms: Chromium (III) chloride, hexahydrate (1:3:6); Chromic chloride hexahydrate; Chromium trichloride hexahydrate; Chromium Chloride, 6-Hydrate

CAS No.: 10060-12-5

Molecular Weight: 266.48

Chemical Formula: CrCl₃·6H₂O

Product Codes: CHEM-469

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Chromium (III) Chloride Hexahydrate	10060-12-5	99 - 105%	Yes

3. Hazards Identification

Emergency Overview

WARNING. Harmful if swallowed. Causes skin and eye irritation. May cause an allergic skin reaction. Causes respiratory tract irritation. May cause reproductive effects. May cause damage to the kidneys. OSHA regulatory status This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health: 3 - Severe (Life)

Flammability: 0 - None

Reactivity: 1 - Slight

Contact: 3 - Severe

Lab Protective Equipment: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES

Storage Color Code: Green (General Storage)

Potential Health Effects

Routes of exposure:

Inhalation. Ingestion. Skin contact. Eye contact.

Eyes Causes eye irritation.

Skin Causes skin irritation. Prolonged or repeated skin contact may cause skin irritation or allergic skin sensitization reaction.

Inhalation:

Dust irritates the respiratory system, and may cause coughing and difficulties in breathing.

Ingestion Harmful if swallowed. May cause irritation of the gastrointestinal tract.

Target organs:

Eyes. Skin. Respiratory system. Reproductive organs. Kidneys.

Chronic effects:

May cause adverse reproductive effects - such as birth defects, miscarriages, or infertility based on animal data. May cause damage to the kidneys. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Potential environmental effects:

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. First Aid Measures

Inhalation:

Move to fresh air. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration. Get medical attention immediately.

Ingestion:

Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Notes to physician Treat symptomatically. Symptoms may be delayed. General advice Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Eye Contact:

Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation develops or persists.

5. Fire Fighting Measures

Fire:

This product is not flammable.

Explosion:

Does not present an explosion hazard.

Fire Extinguishing Media:

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special Information:

Firefighters should wear full protective gear. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. In the event of fire and/or explosion do not breathe fumes. Use water spray to cool unopened containers.

6. Accidental Release Measures

Keep unnecessary personnel away. Keep upwind. Ventilate the area. Do not inhale vapor, fumes, or dust from the spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Prevent further leakage or spillage if safe to do so. Do

not discharge into drains, water courses or onto the ground. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Prevent entry into waterways, sewer, basements or confined areas. Avoid dust formation.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

Large Spills: Collect dust or particulates using a vacuum cleaner with a HEPA filter. Reduce airborne dust and prevent scattering by moistening with water. Never return spills in original containers for re-use. Clean contaminated surface thoroughly. Clean up in accordance with all applicable regulations.

7. Handling and Storage

Wear appropriate personal protective equipment. Keep formation of airborne dusts to a minimum. Do not breathe dust. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment. Keep container tightly closed. Store in a well-ventilated place.

8. Exposure Controls/Personal Protection

Material Type	Value	Form:
Chromium (III) Chloride Hexahydrate (10060-12-5)	0.5000 mg/m ³	Chromium (III) compounds

TWA U.S. - OSHA Occupational exposure limits

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TWA

Engineering controls:

Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. If engineering measures are not sufficient to maintain concentrations of dust particulates below the OEL, suitable respiratory protection must be worn.

Personal protective equipment:

Eye / face protection Wear safety glasses with side shields (or goggles).

Skin protection:

Wear appropriate chemical resistant clothing. Wear appropriate chemical resistant gloves.

Respiratory protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: High-efficiency particulate respirator with full facepiece.

General hygiene considerations:

Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and Chemical Properties

Appearance:

Greenish-blue to violet crystals.

Odor:

Odorless.

Solubility:

Soluble in water.

Specific Gravity:

1.76

pH:

No information found.

% Volatiles by volume @ 21°C (70°F):

0

Boiling Point:

Sublimes.

Melting Point:

181.4°F (83°C)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under normal temperature conditions. The substance is hygroscopic and will absorb water by contact with the moisture in the air.

Hazardous Decomposition Products:

Chromium. Hydrogen chloride. Chlorine.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Strong oxidizing agents. Lithium. Nitrogen.

Conditions to Avoid:

Avoid dust formation. Exposure to air.

11. Toxicological Information

Product Test Results:

Acute Oral Rat: 1870 mg/kg

Sensitization:

May cause sensitization by skin contact.

Acute effects:

Harmful if swallowed. May cause damage to the kidneys.

Local effects:

Causes skin and eye irritation. Irritating to respiratory system. May cause sensitization by skin contact.

Chronic effects:

May cause damage to the kidneys. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.

Carcinogenicity:

This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. A4 Not classifiable as a human carcinogen. IARC Monographs. Overall Evaluation of Carcinogenicity 3 Not classifiable as to carcinogenicity to humans.

Skin corrosion/irritation:

Causes skin irritation.

Epidemiology:

No epidemiological data is available for this product.

Mutagenicity:

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive effects Suspected of damaging fertility.

Symptoms and target organs

Irritant effects. Sensitization. Renal injury.

12. Ecological Information

Ecotoxicity:

Expected to be very toxic to aquatic organisms. May cause long-term adverse effects in the environment.

Persistence and degradability:

The product is not biodegradable.

Partition coefficient (n-octanol/water):

Not available

13. Disposal Considerations

Waste codes D007:

Waste Chromium

Disposal instructions:

Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. All wastes must be handled in accordance with local, state and federal regulations.

Contaminated packaging:

Offer rinsed packaging material to local recycling facilities. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport Information

Not regulated.

15. Regulatory Information

US federal regulations:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. This product is not listed on the U.S. EPA TSCA Inventory. Under TSCA, hydrates are considered mixtures of their anhydrous salt and water. Accordingly, the anhydrous form is subject to TSCA reporting requirements.

US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Spill: Reportable quantity CHROMIUM (III) CHLORIDE HEXAHYDRATE (CAS 10060-12-5):

1 LBS

US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Substance: Threshold planning quantity, lower value CHROMIUM (III) CHLORIDE HEXAHYDRATE (CAS 10060-12-5):

1 LBS

US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Substance: Threshold planning quantity, upper value CHROMIUM (III) CHLORIDE HEXAHYDRATE (CAS 10060-12-5):

10000 LBS

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration CHROMIUM (III) CHLORIDE HEXAHYDRATE (CAS 10060-12-5):

1.0 % N090

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance CHROMIUM (III) CHLORIDE HEXAHYDRATE (CAS 10060-12-5):

Listed. N090

CERCLA (Superfund) reportable quantity:

None

Superfund Amendments and Reauthorization Act of 1986 (SARA):

Hazard categories Immediate Hazard - Yes

Delayed Hazard - Yes

Fire Hazard - No

Pressure Hazard - No

Reactivity Hazard - No

Section 311 hazardous chemical:

Yes

Inventory status Country(s) or region Inventory name On inventory (yes/no)*:

Australia Australian Inventory of Chemical Substances (AICS) Yes

Canada Domestic Substances List (DSL) No

Canada Non-Domestic Substances List (NDSL) No

China Inventory of Existing Chemical Substances in China (IECSC) Yes

Europe European Inventory of Existing Commercial Chemical Substances (EINECS) No

Europe European List of Notified Chemical Substances (ELINCS) No

Japan Inventory of Existing and New Chemical Substances (ENCS) No

Country(s) or region Inventory name On inventory (yes/no)*

Korea Existing Chemicals List (ECL) No

New Zealand New Zealand Inventory Yes

Philippines Philippine Inventory of Chemicals and Chemical Substances (PICCS) Yes

United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations:

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - New Jersey Community RTK (EHS Survey): Reportable threshold CHROMIUM (III) CHLORIDE HEXAHYDRATE (CAS 10060-12-5):

1 LBS

US - Pennsylvania RTK - Hazardous Substances: Listed substance CHROMIUM (III) CHLORIDE HEXAHYDRATE (CAS 10060-12-5):

Listed.

16. Other Information

NFPA Ratings: Health: 2 Flammability: 0 Reactivity: 0

Label Hazard Warning:

Harmful if swallowed. Causes skin and eye irritation. May cause an allergic skin reaction. Causes respiratory tract irritation. May cause reproductive effects. May cause damage to the kidneys.

Label Precautions:

Do not breathe dust. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling. Keep container closed.

Use with adequate ventilation.

Label First Aid:

Immediately flush eyes with plenty of water for at least 15 minutes. Immediately flush skin with plenty of water. If gas/fume/vapor/dust/mist from the material is inhaled, remove the affected person immediately to fresh air. Get medical attention immediately. **IF SWALLOWED:** Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting without advice from poison control center.

Product Use:

Laboratory Reagent and Consumer Hobby.

Revision Information:

None

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