

# Material Safety Data Sheet (MSDS)

**Product Name:** Chromic Acid Flakes

**MSDS Generate Date:** 20-05-2017

**Revision Date:** 30-12-2024

## Supplier:

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## 1. Identification of the Substance/Preparation and Company

**Product Name:** Chromic Acid Flakes

**Chemical Name:** Chromic Acid ( $\text{CrO}_3$ )

**Recommended Use:** Industrial use, electroplating, surface treatment, chemical manufacturing.

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## 2. Hazard Identification

- **Classification:**

- Oxidizing Solid (Category 1)
- Acute Toxicity (Category 3)
- Skin Corrosive (Category 1A)
- Eye Damage (Category 1)
- Carcinogenicity (Category 1B)
- Aquatic Chronic Toxicity (Category 1)

- **Signal Word:** DANGER
  - **Hazard Statements:**
    - May cause fire or explosion; strong oxidizer.
    - Toxic if swallowed, inhaled, or absorbed through skin.
    - Causes severe skin burns and eye damage.
    - May cause cancer.
    - Very toxic to aquatic life.
  - **Precautionary Statements:**
    - Wear protective equipment.
    - Avoid breathing dust.
    - Keep away from organic materials.
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### 3. Composition / Information on Ingredients

**Chemical Name:** Chromic Acid (Chromium VI)

**CAS Number:** 7738-94-5

**Purity:** ≥ 99%

**Synonyms:** Chromium Trioxide, Chromic Anhydride

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### 4. First Aid Measures

- **Inhalation:** Move to fresh air, keep warm, seek immediate medical help.
  - **Skin Contact:** Rinse with plenty of water for 20 minutes; remove contaminated clothes.
  - **Eye Contact:** Flush eyes with running water for at least 20 minutes; seek urgent medical attention.
  - **Ingestion:** Do NOT induce vomiting; rinse mouth; seek immediate medical aid.
  - **Most Important Symptoms:** Burning, respiratory distress, ulceration, eye damage.
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### 5. Fire Fighting Measures

- **Suitable Extinguishing Media:** Water spray, foam.
  - **Unsuitable Media:** Dry chemicals, CO<sub>2</sub>.
  - **Hazards:** Powerful oxidizer; may react violently with combustibles. Releases toxic chromium fumes.
  - **Protective Equipment:** Full protective suit and SCBA.
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## 6. Accidental Release Measures

- Evacuate area; avoid dust inhalation.
  - Wear full PPE including respirator.
  - Do not allow product to enter drains or water bodies.
  - Sweep up carefully and place in sealed container.
  - Neutralize residues with reducing agents (e.g., sodium bisulfite).
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## 7. Handling and Storage

- **Handling:**
    - Avoid inhalation, ingestion, and contact with skin/eyes.
    - Use only in well-ventilated areas.
    - Keep away from organic materials and reducing agents.
  - **Storage:**
    - Store in a cool, dry, well-ventilated area.
    - Keep container tightly closed.
    - Store away from combustibles, solvents, and acids.
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## 8. Exposure Controls / Personal Protection

- **Exposure Limits:**
  - OSHA PEL: 0.005 mg/m<sup>3</sup> (Cr VI compounds)
  - ACGIH TLV: 0.003 mg/m<sup>3</sup>

- **Engineering Controls:** Exhaust ventilation, closed systems.
  - **PPE:**
    - Respiratory: Approved respirator for Cr VI dust.
    - Eyes: Chemical goggles + face shield.
    - Skin: Chemical-resistant gloves, apron, full suit.
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## 9. Physical and Chemical Properties

- **Appearance:** Red to dark red flakes
  - **Odor:** Odorless
  - **Melting Point:** 196°C
  - **Boiling Point:** Decomposes
  - **Solubility:** Soluble in water
  - **pH (1% solution):** Acidic
  - **Oxidizing Properties:** Strong oxidizer
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## 10. Stability and Reactivity

- **Stable** under recommended conditions.
  - **Incompatible Materials:** Organic matter, reducing agents, alcohols, bases, combustibles, metals.
  - **Decomposition Products:** Toxic chromium fumes, oxygen.
  - **Hazardous Reactions:** Violent reactions with solvents or flammable materials.
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## 11. Toxicological Information

- **Acute Toxicity:** Highly toxic by ingestion, inhalation, and dermal exposure.
- **Skin Corrosion/Irritation:** Causes severe burns.
- **Carcinogenicity:** Contains Chromium VI—classified as carcinogenic.
- **Chronic Effects:** May damage respiratory tract, liver, kidneys.

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## 12. Ecological Information

- Highly toxic to aquatic organisms.
- Persistent and bioaccumulative.
- Avoid release to environment.

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## 13. Disposal Considerations

- Dispose through licensed chemical waste facility.
- Do not discharge into drains.
- Neutralize Cr VI to Cr III before disposal when allowed.

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## 14. Transport Information (DETAILED)

**UN Number: UN 1463**

**Proper Shipping Name: Chromic Acid, Solid**

**Transport Hazard Class: Class 5.1 (Oxidizing Substances)**

**Subsidiary Risk: Class 8 (Corrosive)**

**Packing Group: PG I (High Danger)**

### Transport Labels Required:

- Oxidizer (5.1)
- Corrosive (8)

### Environmental Hazards:

- Marine Pollutant: **Yes**
- Very toxic to aquatic life; ensure no leakage during transport.

### Special Precautions for User:

- Keep away from heat, organic materials, flammable substances, and reducing agents.
- Do not transport with fuels, solvents, paper, or other combustibles.
- Use corrosion-resistant, sealed containers.

- Ensure vehicle is well ventilated and free from contaminants.

### **Transport Regulations:**

- **ADR/RID (Europe):** UN 1463, Oxidizing solid, Corrosive, PG I
- **IMDG (Sea):** UN 1463, Marine Pollutant, Emergency Schedule (EmS): F-A, S-Q
- **IATA (Air):** Forbidden on passenger aircraft; permitted on cargo aircraft only as PG I

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### **15. Regulatory Information**

- Classified as hazardous under OSHA, EU REACH, and GHS.
- Carcinogenic substance (Chromium VI).
- Environmental restrictions apply.

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### **16. Other Information**

- This MSDS is prepared based on available data and standard safety guidelines.
- Users must ensure suitability for specific applications.
- Handle only under strict safety protocols.
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