

Safety Data Sheet: Chromic Acid (Chromium Trioxide)

1. Identification

Product	Chromic Acid (Chromium Trioxide); CAS 1333-82-0; EC 215-607-8
Use	Professional ingredient and formulation development.
Company	Hainan Zhongxin Chemical Co., Ltd. (ZXCHEM)
Address	Room 1001, Building A, Caohejing Center, No. 1520 Gumei Road, Xuhui District, Shanghai, China
Telephone / email	+86-21-54265599 / sales@zxchem.com.cn
Emergency contact	ZXCHEM office number above, office hours, China time (UTC+8). For urgent medical assistance contact local emergency services.
Scope	Reference safety information for Chromic Acid (Chromium Trioxide). The reference composition, concentration and supply-grade differences are described in Section 3. This document does not certify the composition or transport status of a specific delivered batch or a different formulation.

2. Hazards Identification

Classification	Oxidizing solid Category 1; acute oral and dermal toxicity Category 3; acute inhalation toxicity Category 2; skin corrosion Category 1A; eye damage Category 1; respiratory and skin sensitization Category 1; germ-cell mutagenicity Category 1B; carcinogenicity Category 1A; reproductive toxicity Category 2; respiratory irritation Category 3; repeated-exposure organ toxicity Category 1; acute and chronic aquatic toxicity Category 1.
Signal word / symbols	Danger; GHS03, GHS05, GHS06, GHS08, GHS09
Hazard statements	H271: may cause fire or explosion; strong oxidizer. H301 + H311: toxic if swallowed or in contact with skin. H330: fatal if inhaled. H314: causes severe skin burns and eye damage. H334: may cause allergy or asthma symptoms or breathing difficulties if inhaled. H317: may cause an allergic skin reaction. H340: may cause genetic defects. H350: may cause cancer. H361: suspected of damaging fertility or the unborn child. H335: may cause respiratory irritation. H372: causes organ damage through prolonged or repeated inhalation exposure. H410: very toxic to aquatic life with long-lasting effects.
Prevention	Use adequate ventilation; avoid inhaling dust. Prevent skin and eye contact. Wear suitable chemical-resistant gloves and eye protection. Wash after handling; keep food and drink out of the work area.
Response	After exposure, stop work and seek medical advice. For severe exposure obtain urgent medical care. Rinse contaminated skin or eyes with water; move an inhalation casualty to fresh air.
Environment	Prevent uncontrolled release to drains, soil or surface water. Collect spills for appropriate disposal.



3. Composition / Information on Ingredients

Reference ingredient	Chromic Acid (Chromium Trioxide); CAS 1333-82-0. No unverified additive or impurity percentage is assigned to the supplied material.
Supply grade	CrO3 ≥99.80%
Applicability	The cited concentration or purity describes the reference material. It is not a certificate of analysis for the delivered batch; different solvents or dilutions require the matching supplier safety document.

4. First-Aid Measures

General	Protect the rescuer from exposure and show the product information to medical personnel. Obtain medical advice if symptoms occur or exposure is significant. Obtain immediate emergency medical attention after exposure; prevent rescuer contamination.
Inhalation	Move to fresh air and keep the person comfortable. Seek medical care for breathing difficulty or persistent symptoms. Avoid exposing rescuers to dust. Obtain immediate emergency medical attention after exposure; prevent rescuer contamination.
Skin	Remove contaminated clothing and rinse skin thoroughly with water. Obtain urgent treatment for chemical burns. Obtain immediate emergency medical attention after exposure; prevent rescuer contamination.
Eyes	Rinse gently with clean water for at least 15 minutes. Remove contact lenses when easy and continue rinsing. Obtain urgent medical care. Obtain immediate emergency medical attention after exposure; prevent rescuer contamination.
Ingestion	Rinse the mouth. Do not induce vomiting. Give nothing by mouth to an unconscious person. Obtain emergency medical attention.
Effects / treatment	Fatal inhalation, toxic systemic exposure and severe corrosive injury are possible. Respiratory or skin sensitization and chronic chromium(VI) effects require strict exposure prevention and immediate medical response. Treatment is symptomatic and directed by a clinician.

5. Fire-Fighting Measures

Extinguishing media	Use large quantities of water for compatible surrounding-fire conditions under trained emergency control. Keep combustible material away. Do not use a dry chemical or absorbent that reacts with the oxidizer.
Hazards	Heating or fire can produce toxic chromium-containing fumes. The oxidizer can intensify fire involving combustible materials.
Protection	Firefighters require suitable protective clothing and self-contained breathing equipment. Prevent contaminated firefighting water entering drains.

6. Accidental Release Measures

Personnel	Isolate the spill and provide ventilation. Use chemical-resistant gloves and eye protection; avoid contact and dust exposure.
Environment	Contain the release and protect drains and waterways. Report significant environmental contamination to the responsible authority.
Cleanup	Isolate and collect the oxidizing solid using compatible non-combustible equipment. Do not use sawdust, cellulose or other combustible absorbents. Protect drains and prevent chromium contamination.

7. Handling and Storage

Handling	Use closed transfer and effective extraction to prevent chromium(VI) dust exposure. Wear task-qualified chemical-resistant gloves, protective clothing and eye/face protection. Restrict access, maintain emergency washing facilities and use a qualified respiratory-protection programme.
Storage	Keep locked, tightly sealed, dry and cool in compatible original containers. Segregate from combustible or organic materials, reducing agents, ammonia and incompatible reactants. Protect against heat, moisture and contamination.
Incompatibilities	Keep locked, tightly sealed, dry and cool in compatible original containers. Segregate from combustible or organic materials, reducing agents, ammonia and incompatible reactants. Protect against heat, moisture and contamination.

8. Exposure Controls / Personal Protection

Exposure limits	Apply current chromium(VI) workplace exposure requirements and a task-specific dust assessment; no supplied-batch exposure limit is certified.
Engineering controls	Use local extraction where dust can be generated. Maintain accessible eyewash and emergency washing facilities.
Personal protection	Wear chemical-resistant gloves selected for the task, suitable protective clothing and splash goggles. Add face protection for splash-prone tasks.
Respiratory protection	Use a properly selected respirator under a respiratory-protection program where engineering controls do not adequately limit airborne exposure.
Hygiene	Wash after handling, remove contaminated clothing promptly and do not eat, drink or smoke in the work area.

9. Physical and Chemical Properties

Appearance	Brownish-red flakes
Formula / molecular weight	CrO ₃ / 99.99 g/mol
Physical state	Solid flakes
Water interaction	Water-soluble; dissolution requires controlled handling
Other properties	Product-specific values for odor threshold, vapor pressure, partition coefficient, autoignition temperature and viscosity are not supplied by the selected reference set. No values are inferred.

10. Stability and Reactivity

Stability	Handle and store under the recommended conditions. Prevent contamination and unnecessary heating.
Incompatibilities	Keep locked, tightly sealed, dry and cool in compatible original containers. Segregate from combustible or organic materials, reducing agents, ammonia and incompatible reactants. Protect against heat, moisture and contamination.
Decomposition	Heating or fire can produce toxic chromium-containing fumes. The oxidizer can intensify fire involving combustible materials.

11. Toxicological Information

Exposure effects	Fatal inhalation, toxic systemic exposure and severe corrosive injury are possible. Respiratory or skin sensitization and chronic chromium(VI) effects require strict exposure prevention and immediate medical response.
Reference classification	Oxidizing solid Category 1; acute oral and dermal toxicity Category 3; acute inhalation toxicity Category 2; skin corrosion Category 1A; eye damage Category 1; respiratory and skin sensitization Category 1; germ-cell mutagenicity Category 1B; carcinogenicity Category 1A; reproductive toxicity Category 2; respiratory irritation Category 3; repeated-exposure organ toxicity Category 1; acute and chronic aquatic toxicity Category 1.
Data limits	The reference identifies fatal inhalation toxicity, oral and dermal toxicity, corrosion, sensitization, mutagenic and carcinogenic hazards. No numerical supplied-batch endpoint is assigned.

12. Ecological Information

Environmental effects	Very toxic to aquatic organisms with persistent adverse effects. Collect chromium-containing water and spills; prevent all uncontrolled release.
Controls	Prevent uncontrolled release, collect spills and dispose of contaminated material through an authorized route.
Assessment	No product-specific PBT/vPvB assessment is claimed. Absence of data does not establish absence of environmental effects.

13. Disposal Considerations

Product	Collect surplus product and contaminated cleanup material for disposal by an authorized chemical-waste contractor in accordance with local requirements.
Packaging	Containers may retain product residues. Do not reuse contaminated packaging without an approved cleaning process; use an authorized disposal route.

14. Transport Information

Classification	Class 5.1 — Oxidizer; subsidiary risks 6.1 and 8
UN number	UN 1463
Shipping name	CHROMIUM TRIOXIDE, ANHYDROUS
Class / packing group	DOT / IMDG / IATA substance reference: Class 5.1, subsidiary risks 6.1 and 8, packing group II. Marine-pollutant precautions apply.
Transport precautions	Protect packaging and closures from damage, secure loads and prevent releases. This reference is not a shipping declaration for a specific consignment.

15. Regulatory Information

Identity	Chromic Acid (Chromium Trioxide); CAS 1333-82-0; EC 215-607-8
HS reference	281910; reference heading rather than a destination customs ruling.
Compliance	Apply applicable workplace, environmental and transport rules. A raw-material listing does not establish authorization for a finished formulation.
Assessment	No ZXCHEM-specific chemical safety assessment or destination registration is asserted.

16. Other Information

Hazard meanings	H271: may cause fire or explosion; strong oxidizer. H301 + H311: toxic if swallowed or in contact with skin. H330: fatal if inhaled. H314: causes severe skin burns and eye damage. H334: may cause allergy or asthma symptoms or breathing difficulties if inhaled. H317: may cause an allergic skin reaction. H340: may cause genetic defects. H350: may cause cancer. H361: suspected of damaging fertility or the unborn child. H335: may cause respiratory irritation. H372: causes organ damage through prolonged or repeated inhalation exposure. H410: very toxic to aquatic life with long-lasting effects.
Limitations	Prepared as reference safety information for the identified material. It is not a batch analytical certificate or safety assessment of a different solvent-containing formulation.
Revision	2026.1; prepared 2026-10-07. Customer-document branding and title corrected; technical safety data retained.
Document scope	Reference safety information for the material and grade described in Sections 1 and 3. Different concentrations, solvents or formulations require the applicable safety information. This is not a batch analytical certificate.

Revision: 2026.1 | Revision date: 2026-10-07