

Material Safety Data Sheet

CHROMIUM OXIDE

Section 1 - Product Identification

Product Name : Chromium Oxide
CAS No. : 1308-38-9
Synonym : Chromic Sesquioxide; chrome green; chrome oxide; chromium sesquioxide; chromium (3+) trioxide; dichromium trioxide
Company Identification : Tradeasia International Pte. Limited
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Section 2 – Composition/Information on Ingredients

Substances

Name of substance	Chromium Oxide
Identifiers	
CAS No	1308-38-9
Molecular formula	Cr ₂ O ₃
Molar Mass	152 g/mol

Section 3 – Hazardous Ingredients & Occupational Exposure Limits

Potential Health Effects

Acute effects: Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Chronic Effects: Hazardous in case of inhalation. Slightly hazardous in case of skin contact *sensitizer). CARCINOGENIC EFFECTS: A4 (Not classifiable for human (by ACGIH, 3 (Not classifiable for human) by IARC.

Chronic Effects: MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to upper respiratory tract, skin. Repeated or prolonged exposure to the substance can produce target organs damage.

3.2 GHS Label elements, including precautionary statements

None required

3.3 Hazards not otherwise classified (HNOC) or not covered by GHS – none

Section 4 – First-Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively.

Section 5 – Employee Protection

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

Flash Point: Not available.

Autoignition Temperature: Noncombustible.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 1; Flammability: 0; Instability: 0.

Section 6 – Accidental Release Measures

Methods for Cleaning Up: Normal clean up procedures. Care should be taken to avoid causing dust to become airborne. Vacuum or use wet clean up techniques and place waste materials into appropriately labeled containers for proper disposal. Finish cleaning by washing area with water.

Waste Disposal Method: Disposal must be made in accordance with federal, state and local regulations. As shipped from manufacturer, this product may exceed the RCRA extraction procedure limit of 5 ppm for total soluble chromium. Additional processing especially at elevated temperatures may cause chemical reactions which produce substances which will exceed the RCRA limit. Testing of processed material should be performed to determine the proper waste classification.

Section 7 – Handling and Storage

Precautions for safe handling.

No special measures are necessary.

Advice on general occupational hygiene

Keep away from food, drink and animal feeding stuffs.

Conditions for safe storage, including any incompatibilities

Store in a dry place. Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice:

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

Section 8 – Exposure Controls/Personal Protection (later)

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Safety showers and eye wash stations should be in proximity to work areas. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne

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Eye: Safety glasses, goggles or face shields

Skin/Body: Rubber gloves & lab coats

Respiratory: Use adequate ventilation or NIOSH-approved respiratory devices to prevent inhalation of dust. Use additional appropriate respiratory protection if there is potential to exceed the exposure limits.

Other: Evaluate need based on application.

Personal Protection in Case of Large Spills: Splash goggles, synthetic apron, gloves, NIOSH approved self-contained breathing apparatus or equivalent and full protective gear.

Exposure Limits: TWA: 0.5 (mg(Cr)/m) from ACGIH (TLV) [United States] Consult local authorities for acceptable exposure limits.

Section 9 – Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance: Solid (crystalline solid, powdered solid)

Odor: Odorless

Molecular Weight: 151.99 g/mole

Color: Green

Boiling Point: 4000°C / 7232°F

Melting Point: 2435°C / 4415°F

Specific Gravity: 5.21

Solubility: Insoluble in cold water, acetone and alcohol. Slightly soluble in acids, and alkalies.

Other information

No additional information available.

Section 10 – Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions. Hygroscopic: absorbs moisture or water from the air.

Conditions to Avoid: Dust generation, exposure to moist air or water.

Incompatibilities with Other Materials: Alkaline earth metals, chlorine trifluoride, oxygen difluoride, lithium, rubidium, rubidium acetylide, glycerol.

Hazardous Decomposition Products: Not known.

Hazardous Polymerization: Has not been reported.

Section 11 – Toxicological Information

RTECS#:

CAS# 1308-38-9: GB6475000

LD50/LC50:

Not available.

Carcinogenicity:

CAS# 1308-38-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: A review of studies conducted over 100 years showed no conclusive evidence for a cancer hazard among workers exposed to aerosols formed by chromium metal or Chromium (III) compounds. The International Agency for Research on Cancer (IARC) has concluded that there is inadequate evidence in humans or experimental animals for the carcinogenicity of Chromium (III) compounds. The overall evaluation concluded that Chromium (III) compounds are not classifiable as to their carcinogenicity to humans.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

Section 12 – Ecological Information

Toxicity. Shall not be classified as hazardous to the aquatic environment.

Persistence and degradability. The product contains only inorganic substances which are not biodegradable..

Bioaccumulative potential. Bioaccumulation is unlikely to be significant because of the low water-solubility of this product.

Mobility in soil. The product is insoluble in water.

Results of PBT and vPvB assessment. This product does not contain any substances classified as PBT or vPvB.

Other adverse effects. Data not available.

Section 13 – Disposal Considerations

General information. Waste to be treated as controlled waste. Disposal in accordance with federal, state and local regulations.

Disposal methods. Reuse or recycle products wherever possible. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

Waste class. Product does not exceed the RCRA extraction procedure limit of 5 PPM for total soluble chromium as shipped from the manufacturer. This product when discarded as sold is not an RCRA hazardous waste. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste. (40CFR261.20-24). Chemical processing of this product (particularly at elevated temperatures) can cause chemical reactions which produce substances which will exceed the RCRA limits. Wastes from this product should be tested to determine the proper waste classification. Incineration is not recommended as some trivalent chromium may convert to the hexavalent form.

Section 14 – Transport Information

DOT Classification: : Not a DOT controlled material (United States).

Identification: : Not applicable.

Special Provisions for Transport: Not applicable.

Section 15 – Regulatory Information

1. US Federal regulations

Listed on the United States TSCA (Toxic Substances Control Act) inventory

None of the chemicals in this material have an RQ.

None of the chemicals in this product have a TPQ.

Chromic Oxide is subject to the reporting requirements of sections 311, 312, and 313. Chromic Oxide is not listed in Appendix A and B, 40 CFR 355, as an extremely hazardous substance. Our hazard evaluation of Chromic Oxide has determined that this product is hazardous. This product should be reported under the following EPA Hazard categories as indicated: Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard, Fire Hazard, Sudden Release of Pressure Hazard, and Reactive Hazard.

2. International regulations

CANADA

Not applicable.

EU-Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

Not available.

Risk Phrases:

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 28 After contact with skin, wash immediately with...

3. National regulations

No additional information available

4. US State regulations

California Prop 65 Warning: This product contains chemicals, as trace impurities and not intentionally added, known to the state of California to cause cancer (C) and birth defects or other reproductive (R) harm.

CAS# 1308-38-9 can also be found on the following state right to know lists: New Jersey, Massachusetts.

Section 16 - Additional Information

References: Not available.

Other Special Considerations: Not available.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall Tradeasia International Pte. Ltd. Be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Tradeasia International Pte. Ltd. has been advised of the possibility of such damages