

## Material Safety Data Sheet

Identity: Chromium oxide

Formula: Cr<sub>2</sub>O<sub>3</sub>

### SECTION I - GENERAL INFORMATION

Manufacturer: [Stanford Advanced Materials](#) (SAM)

The information below is believed to be accurate and represents the best information available to SAM. However, SAM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

### SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Molecular weight: 151.99

CAS #	OSHA PEL	ACGIH TLV	%
1308-38-9	0.5mg/m <sup>3</sup>	0.5mg/m <sup>3</sup>	0.0-100%

### SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 4000.00 °C	Vapor Pressure: (vs. air or mmHg):N/A
Melting Point: 2275.00 °C	Vapor Density: (vs. air=1): N/A
Evaporation Rate: N/A	Special Gravity (H <sub>2</sub> O=): 5.21 at 25.0 °C
Solubility in water: Insoluble	Percent Volatile: N/A
Soluble in: Acids and Alkalis	

*Appearance and odor:* Green powder and pieces, no odor.

### SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

*Flash Point:* N/A*Method Used:**Explosive Limits:* LEL: N/A

UEL: N/A

*Extinguishing Media:* Use suitable extinguishing agent for surrounding material and type of fire*Special Fire Fighting Procedures:*

Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

*Unusual Fire and Explosion Hazards:*

When heated to decomposition, it may give off toxic fumes of chromium oxide. Chromium oxide is a powerful oxidizer and may have a violent reaction with  $\text{ClF}_3$ .

SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (stability):* None

*Incompatibility:* Strong oxidizing agents, acids and bases.

*Hazardous Decomposition or Byproducts:* Chromium oxide and oxygen

*Hazardous Polymerization:* Will not occur

*Conditions to avoid (hazardous polymerization):* None

SECTION VI - HEALTH HAZARD DATA

*Routes of entry:* Inhalation? Yes      Skin? Yes      Eyes? Yes      Ingestion? Yes      Other? No

*Signs and Symptoms of Overexposure:*

*Inhalation:* May cause a red, dry throat, coughing and shortness of breath.

*Ingestion:* May cause nausea, diarrhea, and vomiting.

*Skin:* May cause redness, itching, inflammation and burning sensation.

*Eye:* May cause redness, itching, burning sensation and watering.

*Health Hazards (Acute and Chronic):*

Confirmed carcinogen with experimental tumorigenic data. Mutation had reported. Chromate salts are suspected human carcinogens producing tumors of the lungs, nasal cavity, and paranasal sinus. Chronic acid and its salts have a corrosive action on the skin and mucous membranes. The lesions are confined to the exposed parts, affecting chiefly the skin and mucous membranes of the hands and forearms and the mucous membranes of the nasal septum. Hexavalent compounds are more toxic than the trivalent. (Sax, Dangerous Properties of Industrial Materials, eight edition).

*Inhalation:*

Acute: Toxic by inhalation and is a severe irritant to the mucous membranes.

Chronic: May cause histological fibrosis of the lungs, nasal and/or lung cancer.

*Ingestion:*

Acute: Toxic by ingestion which may cause gastrointestinal disorders.

Chronic: No chronic health effects recorded.

*Skin:*

Acute: Severe skin irritant.

Chronic: May cause eczematous dermatitis,

*Eye:*

Acute: Severe eye irritant.

Chronic: No chronic health effects recorded.

*Target Organs:*

*Carcinogenicity:* NTP? Yes    IARC Monographs? No    OSHA Regulated? Yes

*Medical Conditions Aggravated by Exposure:*

*Emergency and First Aid Procedures:*

*Inhalation:* Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention

*Ingestion:* Give 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person

*Skin:* Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist

*Eye:* Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

*Steps to be taken in case material is released or spilled:*

Wear appropriate respiratory and protective equipment specified in section VIII. Isolate spill area, provide ventilation and extinguish sources of ignition. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

*Waste disposal method:*

Dispose of in accordance with state, local, and federal regulations.

*Hazard Label Information:*

Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling.

SECTION VIII - CONTROL MEASURES

*Protective Equipment Summary (Hazard Label Information):*

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact.

*Ventilation:*

*Local Exhaust:* May be necessary to control any air contaminations to within their PELs or TLVs during the use of this product. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure.

*Mechanical (General):* Recommended.

*Work/Hygienic/Maintenance Practices:*

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established