

Material Safety Data Sheet

Identity: Chromium carbide
CAS #12012-35-0

Formula: Cr₃C₂

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 we assume no liability resulting from its use.

SECTION II - PRODUCT INFORMATION/HAZARDOUS INGREDIENTS

Chromium carbide

Concentration %

100

ACGIH-TLV:

0.5 mg/m³

OSHA PEL:

1 mg/m³

SECTION III - PHYSICAL/ CHEMICAL CHARACTERISTICS

Boiling Point: 3800.0 C

Melting Point: 1980.0 C

Physical State: Solid

Solubility in Water: Insoluble

Specific Gravity (water=1): 6.68 gm/cc

Evaporation Rate: NA

Vapor Density (air=1): N/A

Vapor Pressure: NE (vs, Air or MM HG)

Appearance and Odor: Gray powder, no odor.

SECTION IV - FIRE AND EXPLOSION DATA

Flammability No

Method Used: Flammable Solid.

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.

EXTINGUISHING MEDIA: Use: Class D or other suitable extinguishing agent for metal fires.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Chromium carbide may emit toxic fumes if involved in a fire. On contact with moisture, it may emit methane gas.

SECTION V - REACTIVITY DATA

Stability: Yes

Conditions to Avoid – Instability: None.

Incompatibility - Materials to avoid: Moisture, strong oxidization agents, acids and bases

Hazardous decomposition or byproducts: Methane gas.

Hazardous polymerization: Will not occur.

Conditions to avoid – Hazardous polymerization: None.

SECTION VI - HEALTH HAZARD DATA

Mode of Entry: Inhalation: Yes Skin: Yes Eyes: No Ingestion: No

Carcinogenicity: NTP: No IARC: Yes OSHA: YES

To the best of our knowledge the chemical, physical and toxicological properties of chromium carbide have not been thoroughly investigated and recorded.

CHROMIUM: Confirmed human carcinogen with experimental tumorigenic data. Human poison by ingestion with gastrointestinal effects. (Sax, Dangerous Properties of Industrial Materials)

INHALATION

Acute: May cause irritation.

Chronic: May cause pneumoconiosis, histologic fibrosis of lungs, nasal and/or lung cancer

INGESTION

Acute: May cause gastrointestinal disorders.

Chronic: No chronic health effects recorded.

SKIN

Acute: May cause irritation.

Chronic: No chronic health effects recorded..

EYE

Acute: May cause irritation. Chronic:

May cause conjunctivitis.

Target Organs: May affect the respiratory system.

SIGNS AND SYMPTOMS OF EXPOSURE

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

INGESTION: May cause gastritis, convulsions, asphyxia, giddiness, nausea, diarrhea and vomiting.

SKIN: May cause redness, and itching.

EYE: May cause redness, and watering.

EMERGENCY AND FIRST AID PROCEDURES

INHALATION: remove victim to fresh air, keep warm and quiet, give oxygen if breathing is difficult and 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. Seek medical attention immediately.

EYE: Flush eye with lukewarm water, lifting upper and lower eyelids for at least 15 minutes. Seek medical attention immediately

SECTION VII – PRECAUTIONS FOR SAFE HANDLING

Wear appropriate respiratory and protective equipment specified in section VIII.

Isolate spill area and provide ventilation. 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. Use non-sparking tools.

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

Store in a cool, dry area, in tightly sealed container.

Wash thoroughly after handling.

Chromium carbide reacts with moisture to form methane gas. Handle and store in a controlled environment and inert gas such as argon.

SECTION VIII – PROTECTIVE EQUIPMENT

Respiratory: NIOSH – approved dust respirator.

Gloves: Rubber gloves.

Ventilation: To maintain concentration at or below the PEL, TLV

SPECIAL: Handle in an enclosed, controlled environment. Mechanical (Gen): Not Recommended.

Other: Handle in an inert gas such as argon.

Eye and Skin Protection: Wear safety glasses, wear appropriate coveralls to prevent body or skin contact.