

Material Safety Data Sheet

Identity: Chromium boride

Formula: CrB₂

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

Chemical Family: Metal boride

Molecular Weight: 62.81

CAS #12007-16-8

Hazardous Components	CAS #	OSHA PEL	ACGIH TLV	%
Chromium Fluoride	12007-16-8	0.5 mg/m ³	0.5 mg/m ³	0.0-100

SECTION III - PHYSICAL/ CHEMICAL CHARACTERISTICS

Boiling Point: NE

Specific Gravity (water=1): 5.15 gm/cc

Melting Point: NE

Vapor Pressure: NE

Physical States: Solid

Vapor Density: NA Evaporation

Rate: NA

Solubility in Water: Insoluble

% Volatile: NE or NA

Appearance and Odor: Dark gray powder and pieces, no order.

SECTION IV - FIRE AND EXPLOSION DATA

Flash Point: NA Method Used: Non-flammable

Explosive Limits: LEL: NA UEL: NA

Extinguishing Media: USE: Not Applicable. Use suitable extinguishing media for surrounding materials 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:

Chromium boride may emit toxic fumes if involved in a fire.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid - Instability: None

Incompatibility - Materials to avoid: None recorded.

Hazardous Decomposition or byproducts: None recorded.

Hazardous Polymerization: Will not occur.

SECTION VI - HEALTH HAZARD DATA

Routes of entry: Inhalation: Yes Skin - No Eyes - NO Ingestion - Yes

Health Hazards (Acute and Chronic):

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

Chromate: Chromate salts are suspected human carcinogens producing tumors of the lungs, nasal cavity, and paranasal sinus.

Boron: compounds are very toxic and therefore considered an industrial poison. Boron is one of a group of elements, such as Pb, Mn As, which effect the central nervous system. Boron poisoning causes depression of the circulation, persistent vomiting and diarrhea, followed by profound shock and coma. The temperature becomes subnormal and a scarletina form rash may cover the entire body.

Inhalation:

Acute: May cause irritation to the mucous membrane and boron poisoning.

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

Ingestion:

Acute: May cause irritation to the mucous membrane and boron poisoning.

Chronic: May affect the central nervous system.

Skin:

Acute: May cause mild irritation.

Chronic: May cause dermatitis.

Eye:

Acute: May cause mild irritation.

Chronic: No chronic health effects recorded.

Target Organs:

May affect the central nervous and respiratory system.

Carcinogenicity: NTP: Yes IARC Monographs: Yes OSHA Regulated: Yes

LD 50/LC 50: No toxicity data reported.

Signs and Symptoms of Exposure:

Inhalation: May cause a red, dry throat, coughing, sneezing and difficulty breathing. Boron poisoning may cause; depression of the circulation persistent vomiting, diarrhea, shock and coma.

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

Boron poisoning may cause; depression of the circulation persistent vomiting, diarrhea, shock and coma

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

Eyes: May cause redness, itching, and burning sensation and watering.

Medical Conditions Generally Aggravated by Exposure:

Pre-existing respiratory disorders, pulmonary functions and asthma.

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 immediately. 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 if symptoms persist.

Eye: Flush eyes with lukewarm water, lifting upper and lower eyelids, for at least 15 minutes.

Seek medical attention if symptoms persist.

Steps To Be Taken In Case Material Is Released or Spilled:

Wear appropriate respiratory and protective equipment specified in Section VIII-control measures. 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.

Waste Disposal Method: Dispose of in accordance with local, state and federal regulations.

Hazard Label Information:

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

Precautions To Be Taken In Handling and Storing: None

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary - Hazard Label Information NIOSH

approved respirator Impervious gloves Safety glasses

Clothes to prevent skin contact

Respiratory Protection (Specify Type):

NIOSH – approved dust, mist, vapor cartridge respirator.

Ventilation:

.Local Exhaust: to maintain concentration at or below the PEL,TLV

Other Protective Clothing or Equipment: Protective gear suitable to prevent contamination.

Safety glasses, Rubber gloves.

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 and smoking. Do not blow dust off clothing or skin with compressed air.