

## ***Material Safety Data Sheet***

Identity: Chromium Nitride

Formula: Cr<sub>2</sub>N

Chemical Family: Metal nitride

Synonyms: Chromium nitride, chromium mononitride, and dichromium mononitride

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### 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.

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### SECTION II – INGREDIENTS/SUMMARY OF HAZARDS

<b>CAS #</b>	<b>%</b>	<b>OSHA/PEL</b>	<b>ACGIH TLV</b>
12053-27-9	100	1mg/m <sup>3</sup>	0.5mg/m <sup>3</sup>

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### SECTION III – PHYSICAL DATA

Boiling Point: N/A

Melting Point: 1800.0°C

% Volatile: N/A

Solubility in water: Insoluble

Specific Gravity (H<sub>2</sub>O=1): 6.51 g/cc

Evaporation Rate: N/A

Vapor Density (air=1): N/A

Vapor Pressure (mm Hg): N/A

Physical State: Solid

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

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### SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A Method Used: Non-flammable

Extinguishing Media: Use suitable agent for surrounding materials and type of fire.

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: Contact with acids can generate flammable hydrogen gas. When heated to decomposition, chromium nitride may emit toxic fumes of ammonia.

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## SECTION V – HEALTH HAZARDS

Routes of Entry: Inhalation

Health Hazards (Acute and Chronic):

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

Inhalation-

Acute: May cause a red, dry throat

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

*In Emergency Procedures:* Remove victim to fresh air, keep warm and quiet, give oxygen if breathing is difficult, seek medical attention.

Ingestion-

Acute: May cause gastrointestinal disorders

Chronic: No chronic effects recorded.

*In Emergency Procedures:* If conscious, give 1-2 glasses of milk or water and induce vomiting. Keep warm and quiet. Seek medical attention. Never give anything by mouth or induce vomiting to an unconscious person.

Skin contact-

Acute: May cause abrasive irritation.

Chronic: No chronic effects recorded.

*In Emergency Procedures:* Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water. Seek medical attention if symptoms persist.

Eye-

Acute: May cause abrasive irritation.

Chronic: No chronic effects recorded.

*In Emergency Procedures:* Flush eyes and under eyelids with lukewarm water for at least 15 minutes. Seek medical attention.

Target Organs: May effect the respiratory system.

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

LD 50/LC 50: No toxicity data recorded

Medical conditions generally aggravated by exposure: Pre-existing respiratory disorders.

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## SECTION VI – REACTIVITY DATA

Stability: Stable

Conditions to Avoid: None

Incompatibility: Acids

Hazardous Decomposition Products: Hydrogen gas and ammonia fumes

Hazardous Polymerization: Will not occur.

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## SECTION VII – ENVIRONMENTAL INFORMATION

In case of spill or leakage: 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 all applicable Federal, State and Local Regulations.

Hazard Label Information: Store in cool, dry area. Keep container tightly closed. Wash thoroughly after use.

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## SECTION VIII – PROTECTIVE EQUIPMENT

Protective Equipment: Use rubber gloves, safety glasses and clothes to prevent skin contact. (Protective gear to prevent contamination)

Respiratory Protective: NIOSH approved dust respirator.

Ventilation:

Local exhaust: To maintain concentration at low exposure levels.

Mechanical: 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 and smoking. Do not blow dust off clothing or skin using compressed air.