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Current Version: 1.0
Revision Date: Mar 26, 2014

Material Safety Data Sheet

Identity: Chromium Sputtering Target

Formula: Cr

Section I - General Information

Manufacturer: Advanced Engineering Materials Limited (AEM)

The information below is believed to be accurate and represents the best information available to AEM. However, AEM 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: 51.99

CAS #	OSHA PEL	ACGIH TLV	%
7440-47-3	1.0 mg/m ³	0.5 mg/m ³	0.0-100

Section III - Physical/Chemical Characteristics

Physical States: Solid

Boiling Point: 2672.00°C

Specific Gravity (water=1): 7.20

Melting Point: 1857.00°C

Vapor Pressure: 1mm Hg at 1616°C

Solubility in water: Insoluble

Appearance and odor: Steel gray metallic pieces or powder; no odor.

Section IV - Fire and Explosion Hazard Data:

Flash Point: NA *Auto ignition Temp:* 400°C

Extinguishing Media: Use class D or other suitable extinguishing agent for metal fires

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:

Ignites and is potentially explosive in atmospheres of carbon dioxide. Chromium reacts violently or explosively when heated with ammonium nitrate and bromine pentafluoride. Chromium has an incandescent reaction with nitrogen oxide or sulfur dioxide. Powders prepared by evaporation of mercury from chromium amalgam may be pyrophoric.

Section V - Reactivity Data

Stability: Stable

Conditions to Avoid: None.

Incompatibility: Strong oxidizing agents, ammonium nitrite, bromine pentafluoride and carbon dioxide

Hazardous Decomposition or Byproducts: None recorded

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): none

Section VI - Health Hazard Data



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Health Hazards (Acute and Chronic):

- Inhalation:* May cause a red, dry throat, coughing and shortness of breath; May cause histologic fibrosis of lungs, nasal and/or lung cancer
- Ingestion:* May cause gastritis, convulsions, asphyxia, giddiness, nausea, diarrhea and vomiting
- Skin:* May cause redness and itching
- Eye:* May cause redness, itching, and watering

Chromium is a confirmed human carcinogen with experimental tumorigenic data. Human poison by ingestion with gastrointestinal effects (Sax, Dangerous Properties of Industrial Materials)

Target Organs: Respiratory system

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

Medical Conditions 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, 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. Use non-sparking tools

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 rubber gloves, safety glasses, clothes to prevent skin contact.

Ventilation:

- Local Exhaust:* May be necessary to control any air contaminants to within their PELs or TLVs during the use of this product
- Mechanical (General):* NOT 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



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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
