# 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.

<table>
<thead>
<tr>
<th>CAS #</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>7440-47-3</td>
<td>1.0 mg/m³</td>
<td>0.5 mg/m³</td>
<td>0.0-100</td>
</tr>
</tbody>
</table>

## Section II - Hazardous Ingredients/Identity Information

**Molecular weight:** 51.99

**Physical States:** Solid

*Boiling Point:* 2672.00°C  
*Melting Point:* 1857.00°C  
*Specific Gravity (water=1):* 7.20  
*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
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: Mat 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

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.

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
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