



## Chromium (Pieces, Evaporation Slugs, Sputtering Targets)

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**1. Product Identification**

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Trade Name: Chromium (Pieces, Evaporation Slugs, Sputtering Targets)  
Chemical Formula: Cr  
Recommended Use: Scientific research and development

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**2. Hazards Identification**

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Signal Word: Not Classified in provided form

Hazard Statements: Not Classified in provided form  
Exposure to Powder or particulates may present significant health hazards and explosion hazards when mixed with air

Precautionary Statements:  
P281: Use personal protective equipment as required  
P201: Obtain special instructions before use  
P202: Do not handle until all safety precautions have been read and understood  
P308+P313: IF exposed or concerned: Get medical advice/attention  
P405: Store locked up  
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Ratings (0-4): Bulk  
Health: 0  
Flammability: 0  
Physical: 0

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**3. Composition**

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Chemical Family: Metal  
Additional Names: None

Chromium (Cr):  
Percentage: 100 wt%  
CAS #: 7440-47-3  
EC #: 231-157-5

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**4. First Aid Procedures**

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General Treatment: Seek medical attention if symptoms persist.  
Special Treatment: None  
Important Symptoms: None

Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult.  
Ingestion: Seek medical attention.  
Skin: Wash affected area with mild soap and water. Remove any contaminated clothing.

## Chromium (Pieces, Evaporation Slugs, Sputtering Targets)

Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

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### 5. Firefighting Measures

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Flammability: Non-flammable, except as powder  
Extinguishing Media: Do not use water for metal fires – use CO<sub>2</sub>, sand, extinguishing powder.  
Spec. Fire Fighting Procedure: Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

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### 6. Accidental Release Measures

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If Material Is Released/Spilled: Wear appropriate respiratory and protective equipment specified in special protection information. 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 disposal. Take care not to raise dust.  
Environmental Precautions: Isolate runoff to prevent environmental pollution.

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### 7. Handling and Storage

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Handling Conditions: Wash thoroughly after handling.  
Storage Conditions: Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in section 10.  
Work/Hygienic Maintenance: 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.  
Ventilation: Provide sufficient ventilation to maintain concentration at or below threshold limit.

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### 8. Exposure Controls and Personal Protection

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Permissible Exposure Limits: 1 mg/m<sup>3</sup> as Cr, metal, long-term value  
0.5 mg/m<sup>3</sup> as Cr, inorganic compounds, long-term value  
Threshold Limit Value: 0.5 mg/m<sup>3</sup> as Cr, long-term value  
Special Equipment: None  
Respiratory Protection: Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.  
Protective Gloves: Nitrile rubber, NBR  
Eye Protection: Safety glasses or goggles  
Body Protection: Protective work clothing. Wear close-toed shoes and long sleeves/pants.

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### 9. Physical and Chemical Characteristics

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Color: Grey  
Form: Granules, Pellets, Evaporation Slugs, Sputtering target, Custom parts  
Odor: Odorless

## Chromium (Pieces, Evaporation Slugs, Sputtering Targets)

Water Solubility:	Insoluble
Boiling Point:	2671 °C
Melting Point:	1907 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	7.19 g/cc
Molecular weight:	51.996 g/mol

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### 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	Strong oxidizing agents
Incompatible Conditions:	None
Hazardous Decomposition Products:	Metal oxide fume

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### 11. Toxicological Information

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Potential Health Effects:	
Eyes:	May cause irritation
Skin:	May cause irritation
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	N/A
Carcinogen:	ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals. (Inhalation) EPA-A: human carcinogen: sufficient evidence from epidemiologic studies to support a causal association between exposure and cancer (Inhalation)EPA-K: Known human carcinogens IARC-3: Not classifiable as to carcinogenicity to humans (Oral)EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.

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### 12. Ecological Information

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Aquatic Toxicity:	Low
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bio-accumulative:	No
Notes:	N/A

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### 13. Disposal Considerations

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Dispose of in accordance with local, state, national, and international regulations.

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### 14. Transportation Data

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General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DoT).
Hazard Class:	No Transport Warning sign required
Packing Group:	Not applicable
UN Number:	Not applicable
Proper Shipping Name:	Metal pieces, (Chromium pieces, sputter target)

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### 15. Regulatory Information

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Sec 302 Extremely Hazardous:	No
Sec 304 Reportable Quantities:	N/A
Sec 313 Emission Reporting:	None of the ingredients are listed or exempt

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### 16. Other Information

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This safety data sheet should be used in conjunction with technical sheets. It does not replace them. **No warranty, guarantee or representation is made to its accuracy, reliability or completeness.** These materials should only be handled by, or under the direct supervision of a “technically qualified individual”, as defined in TSCA regulations 40 CFR 710.3(ee). The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products

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