



XI'AN FUNCTION MATERIAL GROUP CO., LTD  
Material Safety Data Sheet  
Aluminum Chromium Silicon

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1. Product and Company Identification

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Trade Name: Aluminum chromium silicon  
Chemical Formula: AlCrSi  
Recommended Use: Scientific research and development

Manufacturer/Supplier: XI'AN FUNCTION MATERIAL GROUP CO., LTD  
Street: No. 69, Gazelle Valley, High-Tech Zone  
City: XI'AN  
State: Shannxi  
Zip Code: 710077  
Country: China  
Tel #: +86-29-88993870/+86-13519132051

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2. Hazards Identification

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Signal Word:

Danger



Hazard Statements:

H228: Flammable solid  
H250: Catches fire spontaneously if exposed to air  
H261: In contact with water releases flammable gas  
H351: Suspected of causing cancer

Precautionary Statements:

P201: Obtain special instructions before use  
P202: Do not handle until all safety precautions have been read and understood  
P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking  
P222: Do not allow contact with air  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P240: Ground/bond container and receiving equipment  
P241: Use explosion-proof electrical/ventilating/lighting/equipment  
P231+P232: Handle under inert gas. Protect from moisture  
P308+P313: IF exposed or concerned: Get medical advice/attention  
P370+P378: In case of fire: Use special powder for metal fires for extinction  
P405: Store locked up  
P422: Store contents under inert gas  
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):

	Powder	Bulk
Health:	1	1
Flammability:	3	0
Physical:	2	1

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### 3. Composition

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Chemical Family: Metal alloy  
Additional Names: None

Aluminum (Al):  
Percentage: 0-100 wt%  
CAS #: 7429-90-5  
EC #: 231-072-3

Chromium (Cr):  
Percentage: 0-100 wt%  
CAS #: 7440-47-3  
EC #: 231-157-5

Silicon (Si):  
Percentage: 0-100 wt%  
CAS #: 7440-21-3  
EC #: 231-130-8

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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: Give one to two glasses of water and induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person.

Skin: Wash affected area with mild soap and water. Remove any contaminated clothing.

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:	Handle under dry protective gases. Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store under dry inert gas. 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:	0.5 mg/m <sup>3</sup> as Cr, 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 0.11mm thick.
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	N/A
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	N/A

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	Acids, Bases, Halocarbons, Interhalogens, Oxidizing agents
Incompatible Conditions:	Air, Water/moisture
Hazardous Decomposition Products:	Silicon oxides, 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: 3160 mg/kg for rat by mouth (as Silicon)

Carcinogen: EPA-A: human carcinogen: sufficient evidence from epidemiologic studies to support a causal association between exposure and cancer  
IARC-3: Not classifiable as to carcinogenicity to humans.  
(Inhalation)EPA-K: Known human carcinogens  
Oral)EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available.  
(Oral)EPA-CBD: Carcinogenic potential cannot be determined.  
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.

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## 12. Ecological Information

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Aquatic Toxicity:	Low
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bioaccumulative:	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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Hazardous: Hazardous as powder only.



Hazard Class: 4.3 Substances which, in contact with water, emit flammable gases  
Secondary Class: 4.1 Flammable solids, self-reactive substances and solid desensitized explosives.

Packing Group: II

UN Number: UN3208

Proper Shipping Name: Metallic substance, water reactive, n.o.s. (Aluminum chromium silicon)

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## 15. Regulatory Information

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Sec 302 Extremely Hazardous:	No
Sec 304 Reportable Quantities:	N/A
Sec 313 Toxic Chemicals:	Yes

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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. 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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