



XI'AN FUNCTION MATERIAL GROUP CO., LTD  
Material Safety Data Sheet  
Iron Selenide

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1. Product and Company Identification

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Trade Name: Iron Selenide  
Chemical Formula: FeSe

Manufacturer/Supplier: XI'AN FUNCTION MATERIAL GROUP CO., LTD  
Street: No. 69, Gazelle Valley, High-Tech Zone  
City: XI'AN  
State: Shaanxi  
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: H301+H331: Toxic if swallowed or if inhaled.  
H373: May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements: P260: Do not breathe dust/fume/gas/mist/vapors/spray.  
P261: Avoid breathing dust/fume/vapor.  
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P405: Store locked up.  
P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

HMIS Health Ratings (0-4):

Health: 2  
Flammability: 0  
Physical: 1

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3. Composition

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Chemical Family: Ceramic  
Additional Names: N/A

Iron Selenide (FeSe):  
Percentage: 0-100 wt%  
CAS #: 1310-32-3  
EC #: 215-177-1

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#### 4. First Aid Procedures

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General Treatment:	Immediately remove any clothing soiled by the product. 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:	No special restrictions – use suitable extinguishing agent for surrounding material and type of fire. Use alcohol resistant foam for larger fires.
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:	0.2 mg/m <sup>3</sup> as Se, long-term value
Threshold Limit Value:	0.2 mg/m <sup>3</sup> as Se, long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves
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	Black
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	965 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	6.9 g/cc
Molecular weight:	134.81 g/mol

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## 10. Reactivity

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Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents
Incompatible Conditions:	N/A
Hazardous Decomposition Products:	Toxic metal oxide fume

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## 11. Toxicological Information

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Potential Health Effects:	
Eyes:	Causes irritation
Skin:	Causes irritation
Ingestion:	Toxic if ingested
Inhalation:	Toxic if inhaled
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	Selenium may cause amyotrophic lateral sclerosis, bronchial irritation, gastrointestinal distress, vasopharyngeal irritation, garlic odor on breath and sweat, metallic taste, pallor, irritability, excessive fatigue, loss of fingernails and hair, pulmonary edema, anemia and weight loss.  Iron compounds may cause vomiting, diarrhea, ink urine, black stool and liver damage. May cause damage to the kidneys. Irritating to the respiratory tract, they may cause pulmonary fibrosis if dusts are inhaled.
Median Lethal Dose:	N/A
Carcinogen:	EPA-D: Not classifiable as to human carcinogenicity: inadequate human and animal evidence of carcinogenicity or no data are available. NTP-R: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals. IARC-3: Not classifiable as to carcinogenicity to humans.

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## 12. Ecological Information

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Aquatic Toxicity:	N/A
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Do not allow product to be released to the environment without proper governmental permits. Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely small quantities leak into the ground.  
Very toxic for aquatic organisms.  
Poisonous for fish and plankton in water bodies.  
May cause long lasting harmful effects to aquatic life.  
Avoid transfer into the environment

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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 for transportation.



Hazard Class: 6.1 Toxic substances  
Packing Group: PG III  
UN Number: UN 3283  
Proper Shipping Name: Selenium compound, solid, n.o.s (Iron Selenide)

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### 15. Regulatory Information

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Sec 302 Extremely Hazardous: N/A  
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.

Document Last Revised: 03/20/2017