



1. Product and Company Identification

Trade Name: Aluminum arsenide
Chemical Formula: AIAs
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: Shaanxi
Zip Code: 710077
Country: 710077
Tel #: +86-29-88993870/+86-13519132051

2. Hazards Identification

Signal Word: Danger



Hazard Statements: H301+H331: Toxic if swallowed or inhaled

Precautionary Statements: P261: Avoid breathing dust/fume/vapor
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P311: Call a POISON CENTER or doctor/physician
P405: Store locked up
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):

Health: 3
Flammability: 1
Physical: 1

3. Composition

Chemical Family: Semiconductor
Additional Names: None

Aluminum Arsenide (AIAs):
Percentage: 100%
CAS #: 22831-42-1
EC #: 245-255-0

4. First Aid Procedures

General Treatment:	Immediately remove any clothing soiled by the product. Remove breathing apparatus only after contaminated clothing has been completely removed. In case of irregular breathing or respiratory arrest provide artificial respiration.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.
Ingestion:	Do not induce vomiting. Immediately call for medical help.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing. Seek immediate medical advice.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Consult doctor.

5. Firefighting Measures

Flammability:	Non-flammable
Extinguishing Media:	Use CO ₂ , sand, or extinguishing powder. Do not use water.
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.

6. Accidental Release Measures

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.

7. Handling and Storage

Handling Conditions:	Wash thoroughly after handling. Open and handle container with care.
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.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	0.01 mg/m ³ as As
Threshold Limit Value:	0.01 mg/m ³ as As: Confirmed human carcinogen
Special Equipment:	None
Respiratory Protection:	Refer to 29CFR1910.1018 for regulations on respiratory protection required during exposure to inorganic arsenic.
Protective Gloves:	Impervious gloves. Check protective gloves prior to each use.
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Grey
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	1740 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	3.81 g/cc at 20°C
Molecular weight:	101.9 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Water
Incompatible Conditions:	N/A
Hazardous Decomposition Products:	Toxic metal fume, Arsine

11. Toxicological Information

Potential Health Effects:

Eyes:	Irritating effect
Skin:	Irritation to skin and mucous membranes
Ingestion:	Toxic if swallowed
Inhalation:	Toxic if inhaled
Chronic:	Acute arsenic poisoning from ingestion results in marked irritation to stomach and intestines with nausea, vomiting, and diarrhea. In severe cases, the vomitus and stools are bloody and the patient goes into collapse and shock with weak, rapid pulse, cold sweats, coma, and death. Chronic arsenic poisoning may cause disturbances of the digestive system such as loss of appetite, cramps, nausea, constipation or diarrhea. Aluminum may be implicated in Alzheimer's disease. Inhalation of aluminum containing dusts may cause pulmonary disease.

Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A

Median Lethal Dose:	N/A
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Carcinogen:	EPA-A: human carcinogen: sufficient evidence from epidemiologic studies to support a causal association between exposure and cancer IARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity. ACGIH A1: Confirmed human carcinogen: Agent is carcinogenic to humans based on epidemiologic studies of, or convincing clinical evidence in, exposed humans. Carcinogen as defined by OSHA. NTP-K: Known to be carcinogenic: sufficient evidence from human studies.
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12. Ecological Information

Aquatic Toxicity:	Very toxic for aquatic organisms
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach any water sources.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic to aquatic life.
May cause long lasting harmful effect on aquatic life.
Avoid transfer into the environment.

13. Disposal Considerations

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

14. Transportation Data

Hazardous: Hazardous for transportation



Hazard Class: 6.1 Toxic substances
Packing Group: PG II
UN Number: UN1557
Proper Shipping Name: Arsenic compounds, solid, n.o.s. (Aluminum arsenide)

15. Regulatory Information

Sec 302 Extremely Hazardous: N/A
Sec 304 Reportable Quantities: N/A
Sec 313 Toxic Chemicals: Yes

16. Other Information

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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