



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

1. Product and Company Identification

Trade Name: Germanium
Chemical Formula: Ge

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

2. Hazards Identification

Signal Word: Danger



Hazard Statements: H228: Flammable solid
Precautionary Statements: P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
P240: Ground/bond container and receiving equipment
P241: Use explosion-proof electrical/ventilating/light/ equipment
P280: Wear protective gloves/protective clothing/eye protection/face protection
P370+P378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

HMIS Health Ratings (0-4):	Powder	Bulk
Health:	1	0
Flammability:	1	0
Physical:	3	0

3. Composition

Chemical Family: Metalloid
Additional Names: None

Germanium (Ge):
Percentage: 100 wt%
CAS #: 7440-56-4
EC #: 231-164-3

4. First Aid Procedures

General Treatment:	Seek medical attention. Move away from dangerous area.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Seek medical attention.
Ingestion:	Do NOT induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person. Seek medical attention.
Skin:	Wash skin with soap and water. Seek medical attention.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.

5. Firefighting Measures

Flammability:	Flammable as powder only
Extinguishing Media:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Do not use water for metal fires – use 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.

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. Remove all ignition sources. Evacuate personnel away from dangerous areas.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

7. Handling and Storage

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.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	N/A
Threshold Limit Value:	N/A
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves
Eye Protection:	Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Gray
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	937.2 °C
Melting Point:	2830 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	5.35 g/cc
Molecular weight:	72.59 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts with:	Halogens, Oxidizing agents
Incompatible Conditions:	Heat, flames, sparks and direct sunlight
Hazardous Decomposition Products:	Metal oxide fume, Germanium Oxide

11. Toxicological Information

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
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Carcinogen:	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
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12. Ecological Information

Aquatic Toxicity:	N/A
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	N/A

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

14. Transportation Data

Hazardous: Hazardous as powder only.



Hazard Class: 4.1 Flammable Solid
Packing Group: II
UN Number: UN 3089
Proper Shipping Name: Metal powder, flammable, n.o.s. (Germanium)

15. . Regulatory Information

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

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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