



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

1. Product and Company Identification

Trade Name: Germanium Selenium Telluride
Chemical Formula: GeSeTe
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: China
Tel #: +86-29-88993870/+86-13519132051

2. Hazards Identification

Signal Word: Danger



Hazard Statements: H301+H331: Toxic if swallowed or if inhaled
H332: Harmful if inhaled.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H335: May cause respiratory irritation.
H373: May cause damage to the liver and the digestive system through prolonged or repeated exposure. Routes of exposure: Oral.

Precautionary Statements: P260: Do not breathe dust/fume/gas/mist/vapour/spray.
P261: Avoid breathing dust/fume/vapor
P280: Wear protective gloves/protective clothing/eye protection/face protection
P301+P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P405: Store locked up
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):	Powder	Bulk/Pieces
Health:	2	1
Flammability:	1	0
Physical:	1	0

3. Composition

Chemical Family:	Ceramic
Additional Names:	N/A
Germanium (Ge):	
Percentage:	0-100 wt%
CAS #:	7440-56-4
EC #:	231-164-3
Selenium (Se):	
Percentage:	0-100 wt%
CAS #:	7782-49-2
EC #:	231-957-4
Tellurium (Te):	
Percentage:	0-100 wt%
CAS #:	13494-80-9
EC #:	236-813-4

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist. 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. Supply oxygen if breathing is difficult. Seek immediate medical advice.
Ingestion:	Do not induce vomiting. Never induce vomiting or give anything by mouth to an unconscious person. 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. Seek immediate medical advice.

5. Firefighting Measures

Flammability:	Flammable
Extinguishing Media:	Do not use water for metal fires – use CO ₂ , 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.

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:	Do not allow material to be released to the environment without proper governmental permits. 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. Ensure good ventilation at the workplace. Open and handle container with care.
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:	0.1 mg/m ³ as Te, long-term value
Threshold Limit Value:	0.1 mg/m ³ as Te, long-term value
Special Equipment:	None
Respiratory Protection:	Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as backup to engineering controls. Risk assessment should be performed to determine if air-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.

9. Physical and Chemical Characteristics

Color	N/A
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	N/A
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

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents, acids, strong bases, metals, halogens, interhalogens
Incompatible Conditions:	Acids, strong bases, halogens, interhalogens, oxidizing agents, metals
Hazardous Decomposition Products:	Hydrogen telluride, Germanium oxide, Selenium dioxide (SeO ₂), Metal oxide fume

11. Toxicological Information

Potential Health Effects:

Eyes:	Causes serious eye irritation.
Skin:	Causes skin irritation.
Ingestion:	Toxic if swallowed.
Inhalation:	Toxic if inhaled.
Chronic:	N/A

Signs & Symptoms: N/A

Aggravated Medical Conditions: N/A

Median Lethal Dose: 83 mg/kg for rat by mouth
LC50/4H: >2420 mg/m³/4H

Carcinogen: N/A

12. Ecological Information

Aquatic Toxicity: N/A

Persistent Bioaccumulation Toxicity: N/A

Very Persistent, Very Bioaccumulative: N/A

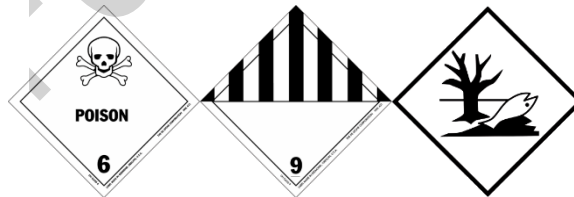
Notes: Do not allow material to be released the environment without proper governmental permits.
Danger to drinking water if even small quantities leak into the ground.
May cause long lasting harmful effects to aquatic life.
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.
Avoid transfer into the environment.

13. Disposal Considerations

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

14. Transportation Data

Hazardous: Hazardous as powder.



Hazard Class: 6.1 Toxic Substances

Packing Group: III

UN Number: UN3288

Proper Shipping Name: Toxic solid, inorganic, n.o.s (Germanium Selenium Tellurium)

15. Regulatory Information

Sec 302 Extremely Hazardous: No

Sec 304 Reportable Quantities: N/A

Sec 313 Toxic Chemicals: Yes (Selenium)

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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