LTS Research Laboratories, Inc.
Safety Data Sheet
Germanium Arsenic Selenium Tin Telluride

1. Product and Company Identification

Trade Name:	Germanium arsenic selenium telluride
Chemical Formula:	Ge-As-Se-Sb-Te
Recommended Use:	Scientific research and development
Manufacturer/Supplier:	LTS Research Laboratories, Inc.
Street:	37 Ramland Road
City:	Orangeburg
State:	New York
Zip Code:	10962
Country:	USA
Tel #:	855-587-2436 / 855-lts-chem
Emergency Contact (ChemTrec) Tel #:	800-424-9300 (US & Canada) +1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Danger

Hazard Statements:
H301 Toxic if swallowed
H330 Toxic if inhaled
H228 Flammable solid

Precautionary Statements:
P210 Keep away from heat/sparks/open flames/ hot surfaces- No smoking.
P261 Avoid breathing dust/fume
P280 Wear protective gloves/protective clothing/eye protection/face protection
P240 Ground/bond container and receiving equipment
P301+P310 If swallowed: immediately call a poison center or doctor
P304+P340 If inhaled: remove person to fresh air
P370+P378 In case of fire: Use for extinction: CO2, powder, or water spray.
P405 Store locked up
P501 Dispose of according to local/regional/national/international regulations

HMIS Health Ratings (0-4):

Health:	3
Flammability:	2
Reactivity:	1

3. Composition

Chemical Family:	Semimetallic alloy
Additional Names:	Germanium arsenic selenium tin tellurium alloy, GASST
Germanium (Ge):	
Percentage:	0-100 wt%
Arsenic (As):	
Percentage:	0-100 wt%
Selenium (Se):	
Percentage:	0-100 wt%
Tin (Sb)	
Percentage:	0-100 wt%
Tellurium (Te):	
Percentage:	0-100 wt%

4. First Aid Procedures

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 ten minutes.

5. Fire and Explosion Hazards Data

Flammability:	Flammable
Extinguishing Media:	Special powder for metal fires. 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.

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.
Storage Conditions:	Store in a cool dry place in a tightly sealed container.
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 TLV.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	0.01 mg/m^3 as As, long-term
Threshold Limit Value:	0.01 mg/m^3 as As, long-term
Biological Exposure Index:	35 mg/m^3 as Arsenic in urine at end of workweek
Special Equipment:	None
Respiratory Protection:	Use a respirator with type P100 (USA) or P3 (EN143) cartridges as a 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 0.11mm thick.
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:	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:	Acids, Oxidizing Agents
Incompatible Conditions:	Acids, Oxidizing Agents
Haz. Decomposition Products:	Tin oxides, Metal oxide fume

11. Toxicological Information

Potential Health Effects:

Eyes:	Harmful
Skin:	Irritant – toxin is not easily absorbed through skin
Ingestion:	Fatal
Inhalation:	Fatal
Chronic:	Acute arsenic poisoning from ingestion results in marked irritation of the 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. Tellurium is converted in the body to dimethyl telluride which imparts a garlic-like odor to the breath and sweat. Heavy exposure may result in headache, drowsiness, metallic taste, loss of appetite, nausea, tremors, convulsions, and respiratory arrest.

Routes of Entry:	Inhalation and ingestion.
Target Organs:	N/A
Signs & Symptoms of Exposure:	N/A
Medical Conditions Aggravated by Exposure:	N/A
Median Lethal Dose:	N/A
Carcinogen:	Confirmed carcinogen EPA-A, IARC-1, ACGIH-A1, NTP-K

12. Ecological Information

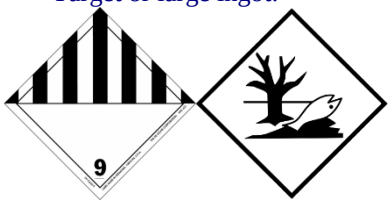
Aquatic Toxicity:	High
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bioaccumulative:	No
Notes:	Very toxic for aquatic organism. May cause long lasting harmful effect on aquatic life. Do not allow material to be released to the environment without proper governmental permits. Danger to drinking water if even extremely small quantities leak into the ground.

13. Disposal Considerations

Dispose of in accordance with local, state and federal regulations.

14. Transportation Data

Hazardous: Target or large ingot:



Hazard Class: 9 Miscellaneous hazardous substances
Packing Group: II
UN Number: UN3077
Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Germanium arsenic selenium tellurium)

Hazardous: All other forms:

Hazard Class: 6.1 Toxic substances
Packing Group: II
UN Number: UN1557
Proper Shipping Name: Arsenic compounds, solid, inorganic, n.o.s. (Germanium arsenic selenium telluride)

15. Regulatory Information

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

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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