

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (5N) 99.999% Germanium Antimonide

**Product Code:** GE-SB-05

**CAS Number:** 12299-73-9

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

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## SECTION 2. HAZARDS IDENTIFICATION

Signal Word: Danger



Hazard Statements: H301: Toxic if swallowed

H332: Harmful if inhaled

Precautionary Statements: P261 Avoid breathing dust/fume/vapor

P264: Wash thoroughly after handling

P304+P340: IF INHALED: Remove victim to fresh air and keep at rest  
in a position comfortable for breathing

P321: Specific treatment

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: 1

Physical: 1

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## **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Family: Semimetallic alloy

Additional Names: None

Germanium antimonide (GeSb):

Percentage: 100 wt%

CAS #: 12299-73-9

EC #: N/A

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## **SECTION 4. FIRST AID MEASURES**

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: Do not induce vomiting. Seek immediate medical attention.

Skin: Remove any contaminated clothing. Wash affected area with mild soap and water.

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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## **SECTION 5. FIREFIGHTING MEASURES**

Flammability: Non-flammable, except as powder

Extinguishing Media: 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.

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## **SECTION 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

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## **SECTION 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.

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Permissible Exposure Limits: 0.5 mg/m<sup>3</sup>

as Sb, long-term value

Threshold Limit Value: 0.5 mg/m<sup>3</sup>

as Sb, long-term value

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.

Penetration time of glove material: 480 minutes

Eye Protection: Safety glasses or goggles

Body Protection: Protective work clothing. Wear close-toed shoes and long sleeves/pants.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Color Silver-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: 6.53 g/cm<sup>3</sup>

Molecular weight: 191.47 g/mol

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## **SECTION 10. STABILITY AND REACTIVITY**

Stability: Stable under recommended storage conditions

Reacts With: Acids, Halogens, Oxidizing agents

Incompatible Conditions: None

Hazardous Decomposition Products: Metal oxide fume

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Potential Health Effects:

Eyes: May cause irritation

Skin: May cause irritation

Ingestion: Toxic

Inhalation: Harmful  
Chronic: N/A  
Signs & Symptoms: N/A  
Aggravated Medical Conditions: N/A  
Median Lethal Dose: 100 mg/kg for rat by mouth as Sb  
Carcinogen: N/A

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## **SECTION 12. ECOLOGICAL INFORMATION**

Aquatic Toxicity: High  
Persistent Bioaccumulation Toxicity: No  
Very Persistent, Very Bioaccumulative: No  
Notes: Toxic for aquatic organism.  
May cause long lasting harmful effect on aquatic life.  
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.  
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.  
Avoid transfer into the environment.

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

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

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## **SECTION 14. TRANSPORT INFORMATION**

Hazardous: Hazardous as powder only.  
Hazard Class: 6.1 Toxic substances.  
Packing Group: III  
UN Number: UN1549  
Proper Shipping Name: Antimony compounds, inorganic, solid, n.o.s. (Germanium antimonide)

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## **SECTION 15. REGULATORY INFORMATION**

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

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## **16. OTHER INFORMATION**

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the

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