

# SAFETY DATA SHEET

Date Printed: 04/28/2024

Date Revised: 01/15/2022

## SECTION 1. IDENTIFICATION

**Product Identifier:** (5N) 99.999% Germanium Arsenide Sputtering Target

**Product Code:** GE-AS-05-ST

**CAS Number:** 12271-72-6

**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

## SECTION 2. HAZARDS IDENTIFICATION

HMIS

Health Ratings (0-4):

Health: 3

Flammability: 1

Physical: 1



Signal Word: Danger

Hazard Statements:

H301+H331: Toxic if swallowed or if inhaled

H319 Causes serious eye irritation

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

P321: Specific treatment

P405: Store locked up

P403+P233: Store in a well ventilated place. Keep container tightly closed  
P501: Dispose of contents/container in accordance with  
local/regional/national/international regulations.

---

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

Chemical Family: Ceramic  
Additional Names: None  
Germanium arsenide(GeAs):  
Percentage: 100 wt%  
CAS#: 12271-72-6  
EC #: 235-547-6

---

### **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.  
Remove breathing apparatus only after contaminated clothing has been completely removed.  
Ingestion:  
Do not induce vomiting. Seek immediate medical attention.  
Skin:  
Wash affected area with mild soap and water. Remove any contaminated clothing.  
Eyes:  
Flush eyes with water, blinking often for several minutes.  
Remove contact lenses if present and easy to do. Continue rinsing

---

### **SECTION 5. FIREFIGHTING MEASURES**

Flammability:  
Non-flammable  
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.

---

### **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.

---

## **SECTION 7. HANDLING AND STORAGE**

Handling Conditions:

Handle under dry protective gas.

Wash thoroughly after handling.

Storage Conditions:

Store in a cool dry place in a tightly sealed container.

Store under dry inert gas.

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.

---

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

Permissible Exposure Limits:

0.01 mg/m<sup>3</sup> as As, inorganic compounds, long-term value

Threshold Limit Value:

0.01 mg/m<sup>3</sup> as As, 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.

---

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

Color

Greyish

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:  
147.56 g/mol

---

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

Stability:  
Stable under recommended storage conditions  
Reacts With:  
Acids, Halogens, Oxidizing agents  
Incompatible Conditions:  
Air  
Hazardous Decomposition Products:  
Metal oxide fume

---

## **SECTION 11. TOXICOLOGICAL INFORMATION**

Potential Health Effects:  
Eyes:  
May cause irritation  
Skin:  
May cause irritation  
Ingestion:  
Toxic  
Inhalation:  
Toxic  
Chronic:  
N/A  
Signs & Symptoms:  
N/A  
Aggravated Medical Conditions:  
N/A  
Median Lethal Dose:  
145 mg/kg for mouse by mouth as As  
769 mg/kg for rat by mouth as As  
Carcinogen:  
Arsenic:  
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.

---

## **SECTION 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 official 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.

Do not allow undiluted product or large quantities to reach groundwater, water courses, or sewage systems.

Avoid transfer into the environment.

---

## **SECTION 13. DISPOSAL CONSIDERATIONS**

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

---

## **SECTION 14. TRANSPORT INFORMATION**

Hazardous:

Hazardous for transportation.

Hazard Class:

6.1 Toxic substances.

Packing Group: II

UN Number: UN1557

Proper Shipping Name: Arsenic compounds, solid, inorganic, n.o.s.(Germanium arsenide)

---

## **SECTION 15. REGULATORY INFORMATION**

Sec 302 Extremely Hazardous:

No

Sec 304 Reportable Quantities:

N/A

Sec 313 Toxic Chemicals:

Components: Arsenic

---

## 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 properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.