

# SAFETY DATA SHEET

Date Accessed: 25/08/2023

Date Revised: 09/11/2022

---

## SECTION 1. IDENTIFICATION

**Product Name:** Germanium(IV) Sulfide

**CAS #:** 12025-34-2

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

**Supplier details:**

Stanford Advanced Materials

E-mail: [sales@samaterials.com](mailto:sales@samaterials.com)

Tel: (949) 407-8904

Address: 23661 Birtcher Dr., Lake Forest, CA 92630 U.S.A.

---

## SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

No known OSHA hazards

HMIS Classification

Health Hazard: 2

Flammability: 0

Physical hazards: 0

NFPA Rating

Health Hazard: 2

Fire: 0

Reactivity Hazard: 0

#### Potential Health Effects

Eye Contact: May cause irritation or conjunctivitis by dissolving to form germanic acid, a weak acid.

Skin contact: May cause contact dermatitis.

Inhalation: Inhalation of particulates of will irritate the respiratory tract. Overexposure may produce coughing, headache and nausea. Oral Toxicity: No data available

Chronic Toxicity: No specific information has been reported for this compound. Inhalation- Animal studies of germanium compounds indicate morphological changes of the respiratory tract such as thickening of the alveolar partitions and hyperplasia of the lymphatic vessels around the bronchi and blood vessels. Ingestion- Rats fed 100ppm for 14 weeks showed stimulated growth. Those fed 1000ppm showed depressed growth and suffered 50% mortality. Kidney damage has been reported in humans and animals. For selenium compounds, pallor, nervousness, depression and death have been reported for chronic exposure.

---

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

CAS Number: 12025-34-2

Formula : GeS<sub>2</sub>

Material: Germanium(IV) Sulfide

---

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

EYES: In case of contact, immediately flush eyes with flowing water for at least 15 minutes. Get medical attention.

SKIN: Flush with water, then wash with soap and water.

INHALATION: Move exposed individual to fresh air. Call a physician.

INGESTION: Never give fluids or induce vomiting if patient is unconscious or having convulsions. Get medical attention.

---

## **SECTION 5. FIREFIGHTING MEASURES**

Flash Point, COC: Not Flammable Autoignition Temp.: not ignitable

Flammability Limits- LEL: NA UEL: NA

Extinguishing Media: N/A

Special Fire Fighting Procedures: Avoid eye and skin contact. Do not breathe fumes or inhale vapors.

Unusual Fire and Explosion Hazards: Irritating fumes vapors may develop when material is mixed with

other materials and exposed to elevated temperatures or open flame.

---

## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions

Avoid dust formation.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

---

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

Handling

Provide appropriate exhaust ventilation at places where dust is formed.Storage

Keep container tightly closed in a dry and well-ventilated place.

---

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

ENGINEERING CONTROLS

Safety shower and eye bath.

Mechanical exhaust required.

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95

(US) or type P1 (EN 143) dust masks.

Hand: Protective gloves.

Eye: Chemical safety goggles.

#### GENERAL HYGIENE MEASURES

Wash thoroughly after handling.

---

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: NA

Melting Point: ca 800°C

Specific Gravity: 2.94

Vapor Pressure: No data available

Vapor Density: NA

Solubility in water: insoluble - reacts slowly

% volatiles: 0

Evaporation rate: NA

Molecular Weight: 136.73

Other: NA

Appearance & Color: Tan powder

---

## SECTION 10. STABILITY AND REACTIVITY

Stability: Stable At temperatures >400°C in air oxidizes to germanium dioxide, sulfur and oxides of sulfur.

Incompatibility (materials to avoid): Compatible with most materials Dissolves in strong acid or base.

Hazardous decomposition products: Sulfides, germanium oxides.

---

## SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

no data available

Irritation and corrosion

no data available

Sensitisation

no data available

Chronic exposure 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.

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Ingestion May be harmful if swallowed.

---

## SECTION 12. ECOLOGICAL INFORMATION

Spill response: May be hazardous to aquatic life if released to open waters. Sweep material while wearing a dust mask. Transfer to a suitable container for disposal.

Recommended Disposal: Dispose of as solid waste. Follow all chemical pollution control regulations.

Large quantities may be recycled by return to the Gelest, the manufacturer.

---

## **SECTION 13. DISPOSAL CONSIDERATIONS**

Product

Observe all federal, state, and local environmental regulations.

Contaminated packaging

Dispose of as unused product.

---

## **SECTION 14. TRANSPORT INFORMATION**

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

---

## **SECTION 15. REGULATORY INFORMATION**

OSHA Hazards

No known OSHA hazards

TSCA Status

On TSCA Inventory

DSL Status

This product contains the following components listed on the Canadian NDSL list. All other components are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title

III,Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

---

## **SECTION 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.