

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name Germanium powder
CAS number 7440-56-4
Synonyms No information available

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Laboratory chemicals

1.3 Details of the supplier of the safety data sheet

Company Lab Alley, LLC
 12501 Pauls Valley Road
 Austin, Texas 78737
 U.S.A.

Telephone 512-668-9918
Fax 512-886-4008

1.4 Emergency telephone

Emergency Phone # US & Canada: 1-800-535-5053 INFOTRAC
 International 1-352-323-3500 INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable solids Category 2

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal Word

Warning

Hazard statements

Flammable solid.

Precautionary statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Wear protective gloves/protective clothing/eye protection/face protection.

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

No identified

SECTION 3: Composition/information on ingredients

3.1 Components

| Chemical name | Common name and synonyms | CAS number | Concentration |
|---------------|--------------------------|------------|---------------|
| Germanium | - | 7440-56-4 | 99.99% |

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled

Remove from exposure, lie down. Remove to fresh air. Get medical attention.

In case of skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention.

In case of eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

If swallowed

Clean mouth with water. Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media No information available.

5.2 Specific hazards arising from the substance or mixture

Flammable. Combustible material.

5.3 Special protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

5.4 Further information

Flash Point No data available

Autoignition Temperature No data available

Explosion limits

Upper No data available

Lower No data available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

NFPA

| Health | Flammability | Instability | Physical hazards |
|--------|--------------|-------------|------------------|
| 0 | 2 | 0 | N/A |

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required.

6.2 Environmental precautions

See Section 12 for additional ecological information.

6.3 Methods and materials for containment and cleaning up

Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Sweep up and shovel into suitable containers for disposal.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Avoid contact with skin and eyes. Do not breathe dust. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. Use only non-sparking tools. Minimize dust generation and accumulation.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for special storage temperature requirement. Keep container tightly closed. Keep away from heat, sparks and flame. Flammables area.

Incompatibilities

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits

No information available.

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory protection

No protective equipment is needed under normal use conditions.

Control of environmental exposure

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|--------------------------|
| Physical State | Powder solid |
| Appearance | Dark gray |
| Odor | No information available |
| Odor Threshold | No information available |
| pH | No information available |
| Melting Point/Range | 937 °C / 1718.6 °F |
| Boiling Point/Range | 2830 °C / 5126 °F |
| Evaporation Rate | No information available |
| Flammability (solid) | No information available |
| Flammability or explosive limit | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | No information available |
| Vapor Density | No information available |
| Density | 3.350 |
| Solubility | No information available |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temp | No information available |
| Decomposition Temp | No information available |
| Viscosity | No information available |
| Molecular Formula | Ge |
| Molecular Weight | 72.59 |
| VOC Content(%) | No information available |
| Oxidizing properties | No information available |

9.2 Other safety information

No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

None known, based on information available

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

None under normal processing.

10.4 Conditions to avoid

Incompatible products.

10.5 Incompatible materials

Acids, strong oxidizing agents, strong acids, halogens.

10.6 Hazardous decomposition products

None under normal use conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-----------|-----------|-------------|---------------------------------|
| Germanium | - | - | >5.34 g/m ³ (rat) 4h |

Skin corrosion/irritation

No information available

Serious eye damage/eye irritation

No information available

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available

Carcinogenicity

| Component | CAS | IARC | NTP | ACGIH | OSHA | Mexico |
|-----------|-----------|------------|------------|------------|------------|------------|
| Germanium | 7440-56-4 | Not listed | Not listed | Not listed | Not listed | Not listed |

Specific target organ toxicity - single exposure

None known

Specific target organ toxicity - repeated exposure

None known

Reproductive toxicity

No information available

Chronic effects

No information available

11.2 Additional Information

No information available.

SECTION 12: Ecological information

12.1 Toxicity

Do not empty into drains.

12.2 Persistence and degradability

Insoluble in water

12.3 Bio accumulative potential

No information available

12.4 Mobility in soil

Is not likely mobile in the environment due its low water solubility.

12.5 Results of PBT and vPvB assessment

No information available

12.6 Endocrine disrupting properties

No information available

12.7 Other adverse effects

The toxicological properties have not been fully investigated.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

Not regulated

IMDG

| | |
|-----------------------------|---------------------------------|
| UN-No | UN3089 |
| Proper Shipping Name | METAL POWDER, FLAMMABLE, N.O.S. |
| Hazard Class | 4.1 |
| Packing Group | III |

IATA

| | |
|-----------------------------|---------------------------------|
| UN-No | UN3089 |
| Proper Shipping Name | METAL POWDER, FLAMMABLE, N.O.S. |
| Hazard Class | 4.1 |
| Packing Group | III |

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

See section 2 for more information.

SARA 313 (TRI reporting)

Not regulated

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed

US state regulations

US. Massachusetts RTK - Substance List

Not listed

US. New Jersey Worker and Community Right-to-Know Act

Not listed

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed

California Proposition 65

Not listed

SECTION 16: Other information

Issue date: 01/19/2020

Revision 1: 08/13/2024

SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.