

## GHS Safety Data Sheet

SDS No. : GEI03PAEG

Date Issued : 2016/05/12

Last updated : 2024/10/23

### Section 1. Identification of the substance or mixture and of the supplier

#### Product Information

Product name: **GeSe<sub>2</sub> Germanium selenide**

|                 |                    |        |                   |
|-----------------|--------------------|--------|-------------------|
| Product number: | Purity             | Form   | Size(mm) or Shape |
| GEI08PB         | 99.999%(5N),Others | Powder | —                 |

#### Company Information:

Manufacturer : Kojundo Chemical Laboratory Co., Ltd.

1-28, 5-chome, Chiyoda, Sakado-shi, Saitama Japan 350-0284

Phone: +81-49-284-1511 Fax: +81-49-284-1351

Emergency Phone : +81-49-284-1511

**Recommended uses and restrictions on use:** For research purposes

### Section 2. Hazards identification

#### GHS Classification

| Health Hazards  | Environmental Hazards   | Physical Hazards  |
|---|---|---|
| Acute toxicity, oral: Category 3<br>Acute toxicity, inhalation: Category 3<br>Specific target organ toxicity, repeated exposure: Category 2 | Hazardous to the aquatic environment,<br>acute hazard: Category 1<br>long-term hazard: Category 1 | Substances and mixtures which, in contact with water, emit flammable gases : Not classified |

GHS Label:



Pictograms or symbols:

**Warning word: DANGER**

| Hazard information   | Description of precaution   |
|--|---|
| <b>Toxic if swallowed</b><br><b>Toxic if inhaled</b><br><b>May cause damage to organs through prolonged or repeated exposure</b><br><b>Very toxic to aquatic life</b><br><b>Very toxic to aquatic life with long lasting effects</b> | Avoid breathing dust/mist/gas/fume/vapor/spray. Do not eat, drink or smoke when using this product, and wash hands thoroughly after handling.<br>Use only outdoors or in well-ventilated area.<br>Avoid release to the environment and collect spillage.<br>IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.<br>IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.<br>Immediately call a POISON CENTER or doctor/physician.<br>Call a POISON CENTER or doctor/physician if you feel unwell.<br>Protect from sunlight. Store in a cool, dry and well-ventilated place. Keep container tightly closed.<br>Store locked up.<br>Dispose of contents/ container in accordance with local/national regulations. |



High Purity Materials

KOJUNDO CHEMICAL LABORATORY CO.,LTD.

### Section 3. Composition / information on ingredients

|                               |                      |
|-------------------------------|----------------------|
| Chemical or common name:      | Germanium diselenide |
| Chemical formula:             | GeSe <sub>2</sub>    |
| Single Substance or Compound: | Single substance     |
| Composition:                  | 100%                 |
| CAS #:                        | 12065-11-1           |
| RTECS#:                       | Not listed           |
| TSCA inventory :              | Listed               |
| EINECS:                       | 2350635              |

### Section 4. First aid measures

|               |   |
|---------------|---|
| Eye contact:  | Promptly wash eyes with plenty of water while lifting the eye lids.<br>Continue to rinse for at least 15 minutes and get medical attention. |
| Skin contact: | Promptly flush contaminated skin with soap or mild detergent and water.<br>Contact physician if irritation continues.                       |
| Inhalation:   | Remove the exposed person immediately and provide fresh air.<br>Get medical attention.  |
| Ingestion:    | Rinse mouth and throat with water. Get medical attention immediately.   |

### Section 5. Fire fighting measures

|                      |  |
|----------------------|--|
| Extinguishing media: | Use media appropriate for surrounding fire.  |
| Fire fighting        | Self-contained breathing apparatus and full protective clothing should be used, if the material is involved in fire.<br>In case of fire, the product may liberate toxic gases/ fume. |

### Section 6. Accidental release measures

|   |   |
|---|---|
| Personal Precautions:                   | Workers should use protective wears to prevent contact with the spilt adhesive and inhalation of its vapor/dusts.   |
| Environmental hazard precautions:       | Shut off leak if without risk.<br>Prevent flow out to river, etc. so as not to badly affect.  |
| Method for containment and cleaning up: | Indoor leakage: Ventilate as much as possible until the cleaning is completed.<br>Outdoor leakage: Work from the windward and evacuate the leeward crowd.<br>Gather up, pack in closed DOT-approved waste container as much as possible.<br>Carefully collect remnant and move to a safe place. |

### Section 7. Handling and storage

#### Precautions to be taken in handling:

|                |   |
|----------------|---|
| Safe handling: | Use protective wears and local ventilation equipment, if inhalation or skin contact is foreseen.<br>Avoid prolonged or repeated exposure. |
|----------------|---|

#### Precautions to be taken in storage:

|                      |   |
|----------------------|---|
| General precautions: | Store the material in a sealed container.<br>Store in a cool, dry, well ventilated and dark place away from incompatible materials. |
|----------------------|---|

### Section 8. Exposure controls / personal protection

|                     |                           |                              |                               |
|---------------------|---------------------------|------------------------------|-------------------------------|
| Exposure guideline: | ACGIH(2024)               |                              | OSHA(2006)                    |
|                     | Chemical Name             | TLV-TWA<br>mg/m <sup>3</sup> | TLV-STEL<br>mg/m <sup>3</sup> |
|                     | Selenium compounds(as Se) | 0.2                          | —<br>0.2                      |



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|                    |  |
|--------------------|--|
| Facility measures: | Local ventilation of closed work room or total proper ventilation to prevent inhalation.                                   |
| Protective ware:   | Wear appropriate NIOSH/MSHA-approved respirator, safety goggles, impervious gloves, protective wear, protective boots etc. |

## Section 9. Physical and chemical properties

|                   |   |
|-------------------|---|
| Appearance:       | Yellow, crystalline solid                             |
| Chemical formula: | GeSe <sub>2</sub>                                     |
| Formula weight:   | 230.6   |
| Melting point:    | 740°C (decomposes)                                    |
| Density:          | 4.56 g/cm <sup>3</sup>                                |
| Solubility:       | Insoluble: water<br>Slightly soluble: acids, alkalis. |
| Flammability:     | No data available                                     |
| Oxidation:        | No data available                                     |

## Section 10. Stability and reactivity

|                                   |                              |
|-----------------------------------|------------------------------|
| Stability:                        | Stable in closed container.  |
| Reactivity:                       |                              |
| Incompatibility:                  | No data available            |
| Condition to avoid:               | No data available            |
| Hazardous decomposition products: | Selenium, selenium compounds |

## Section 11. Toxicological information

|                                  |  |                 |                |               |
|----------------------------------|--|-----------------|----------------|---------------|
| Acute toxicity(Oral):            | GHS : Category 3 ; Toxic if swallowed  |                 |                |               |
| Acute toxicity(Inhalation-dust): | GHS : Category 3 ; Toxic if inhaled  |                 |                |               |
| Skin corrosive / irritation:     | GHS : No data available  |                 |                |               |
| Serious eye damage / irritation: | GHS : No data available  |                 |                |               |
| Respiratory sensitization:       | GHS : No data available  |                 |                |               |
| Skin sensitization:              | GHS : No data available  |                 |                |               |
| Germ cell mutagenicity:          | GHS : No data available  |                 |                |               |
| Carcinogenicity:                 | GHS : No data available  |                 |                |               |
| Carcinogenicity:                 |  |                 |                |               |
|                                  | Ingredients  | ACGIH<br>(2024) | IARC<br>(2024) | NTP<br>(2021) |
|                                  | Selenium and compounds   | —               | 3              | —             |
|                                  | IARC 3 The agent is not classifiable as to its carcinogenicity to humans.            |                 |                |               |
| Reproductive toxicity:           | GHS : No data available  |                 |                |               |
| Specific target organ toxicity   |  |                 |                |               |
| —single exposure:                | GHS : No data available  |                 |                |               |
| —repeated exposure:              | GHS : Category 2 ; May cause damage to organs through prolonged or repeated exposure |                 |                |               |
| Aspiration hazard:               | GHS : No data available  |                 |                |               |

## Section 12. Ecological information

|                                      |   |
|--------------------------------------|---|
| Ecotoxicity:                         |   |
| Hazardous to the aquatic environment |   |
| —short-term (acute) hazard:          | GHS : Category 1 ; Very toxic to aquatic life                           |
| —long-term (chronic) hazard:         | GHS : Category 1 ; Very toxic to aquatic life with long lasting effects |



|                              |  |
|------------------------------|--|
| Hazardous to the ozone layer | GHS : No data available<br>No Freon or Halon |
| Fish toxicity:               | See above                                    |
| Degradability:               | No data available                            |
| Bioaccumulative potential:   | No data available                            |
| Mobility in soil:            | No data available                            |

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**Section13. Disposal considerations**

Disposal method: User of the product should contract with the local government or licensed 'Industrial Waste Haulers' for disposal of waste.

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**Section 14. Transport information**

|                     |   |
|---------------------|---|
| UN number:          | 3283  |
| IATA shipping name: | SELENIUM COMPOUND, SOLID, N.O.S.                |
| IATA hazard class:  | Class 6.1 POISON (other than inhalation hazard) |
| IATA packing group: | III   |
| HS code:            | 2842.90   |
| Marine pollution:   | Yes   |

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**Section 15. Regulatory information**

TSCA inventory: Listed.

Please refer to any other local / national measures that may be relevant.

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**Section 16. Other information**

This SDS is for provision of information, and it does not represent a guarantee the properties or safeties of the product.

The information herein is based on the references we could obtained and the present state of our knowledge, however, this SDS does not always cover all information about the product. Some new information or amendments may be added afterwards.

Prior to use, please investigate the laws and regulations of the organization, area and country where the product is to be used. The information is intended to ordinary usage, in case of special handling, sufficient care should be taken.

