

## GHS Material Safety Data Sheet

SDS No. : SEE01PAEG

Date Issued: 2012/12/17

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

#### 1.1 Product Information

Product name: **Se Selenium**

Product number:	Purity	Form	Size (mm) or Shape
SEE01PB	99.9% (3N)	powder	ca.10 $\mu$ m
SEE02PB	99.9% (3N)	powder	75 $\mu$ m pass
SEE01GB	99.9% (3N)	grains, pellets	—
SEE02GB	99.99% (4N)	grains, pellets	—
SEE03GB	99.999% (5N)	grains, pellets	—
—	3N~5N	grains, pellets	—
—	3N~5N	target	Various sizes

#### 1.2 Company Information:

Manufacturer : Kojundo Chemical Laboratory Co., Ltd.  
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### Section 2. Hazards identification

#### GHS Classification

Health Hazards	Environmental Hazards	Physical Hazards
Specific target organ toxicity, single exposure : Category 1 Specific target organ toxicity, repeated exposure : Category 1	Hazardous to the aquatic environment, chronic toxicity : Category 4	Flammable solids : Not classified Pyrophoric solids : Not classified Self heating substances and mixtures : Not classified Substances and mixtures which, in contact with water, emit flammable gases : Not classified

GHS Label: C



Pictograms or symbols

Warning word: **DANGER**

#### Hazard information

**Causes damage to organs (Central nervous system, respiratory organs, cardiovascular, digestive tract)**  
**Causes damage to organs (Nervous system, respiratory organs, liver) through prolonged or repeated exposure.**  
**May cause long lasting harmful effects to aquatic life**

#### Description of precaution

Wear protective gloves/ protective clothing/ eye protection/ respiratory protection/ face protection during handling.  
 Avoid breathing dust/ fume/ vapors. Do not eat, drink or smoke when using this product, and wash hands thoroughly after handling.  
 Avoid release to the environment and collect spillage.  
 Call a POISON CENTER or doctor/physician if you feel unwell.  
 Store locked up.  
 Dispose of contents/ container in accordance with local / national regulations.

#### Additional hazard information :

In case of fire, liberates corrosive and toxic gases/ fume.

With respect to additional hazard information, see Section 11.

**Section 3. Composition / information on ingredients**

Chemical or common name:	Selenium
Chemical formula:	Se
Single Substance or Compound:	Single substance
Composition:	100%
CAS #:	7782-49-2
RTECS#:	VS7700000
TSCA inventory:	listed
EINECS:	2319574

**Section 4. First aid measures**

Eye contact:	Promptly wash eyes with plenty of water while lifting the eye lids. 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. Contact physician if irritation continues.
Inhalation:	Remove the exposed person immediately and provide fresh air. Get medical attention.
Ingestion:	Rinse mouth and throat with water. Get medical attention immediately.

**Section 5. Fire fighting measures**

Extinguishing media:	Dry chemical, CO <sub>2</sub> , regular foam or water spray/ fog.
Fire fighting:	Self-contained breathing apparatus and full protective clothing should be used, if the material is involved in fire. Remove containers to safe place if possible. Use water spray or fog ; DO NOT use straight streams.
Specific hazards arising from the chemical:	In case of fire, liberates corrosive and 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. Prevent flow out to river, etc. so as not to badly affect.
Method for containment and cleaning up:	Avoid unnecessary contacts with spills. Avoid raising dust. Indoor leakage: Ventilate as much as possible until the cleaning is completed. Outdoor leakage: Work from the windward and evacuate the leeward crowd. Gather up, pack in closed container as much as possible. Carefully wash spill site with plenty of water after material pick up.

## Section 7. Handling and storage

### Precautions to be taken in handling:

Safe handling: Handling worker wears suitable protective clothing, and use local ventilation equipment.  
Avoid prolonged or repeated exposure.

### Precautions to be taken in storage:

General precautions: Store in a cool, dry place away from incompatible materials.  
Keep container or bottle tightly closed.

## Section 8. Exposure controls / personal protection

Exposure guideline: ACGIH(2013): Selenium and compounds(as Se) TLV-TWA 0.2 mg/m<sup>3</sup>  
OSHA (2006): Selenium compounds(as Se) PEL-TWA 0.2 mg/m<sup>3</sup>  
Facility measures: Local ventilation of closed work room or total proper ventilation to prevent inhalation.  
Protective ware: Wear appropriate NIOSH/MSHA-approved respirator, air-supplied respirator, safety goggles, face shields, protective gloves.

## Section 9. Physical and chemical properties

Color and Form: Grayish black solid, odorless.  
Chemical formula: Se  
Atomic weight: 78.96  
Melting point: 217 °C  
Boiling point: 684.9 °C  
Density: 4.79 g/cm<sup>3</sup>  
Water solubility: Insoluble  
Flammable: Non-flammable  
Oxidation: None

## Section 10. Stability and reactivity

Stability: Stable in closed container under room temperature.  
Reactivity: Reacts with many metals and non-metals. This produces selenides.  
Incompatibility: Strong oxidizing agents, acids, chromium trioxide, potassium bromate, cadmium.  
Condition to avoid: Heats  
Hazardous decomposition products.: Selenium oxides, selenium compounds.

## Section 11. Toxicological information

Acute toxicity(Oral) : GHS: Not classified.; Falls below the lowest level.  
Oral rat LD50 = 6700 mg/kg (CERI (2002))  
Acute toxicity(Dermal, inhalation) : GHS : No data available  
Skin corrosive / irritation: GHS : No data available  
Serious eyes damage / eye 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  
Se IARC(2016) Selenium and selenium compounds Group 3  
(Group 3: Not classifiable as to its carcinogenicity to humans.)

Reproductive toxicity:	GHS : No data available
Specific target organ toxicity	
—single exposure:	GHS : Category 1 ; Causes damage to organs. (Central nervous system, respiratory organs, cardiovascular, digestive tract)
Specific target organ toxicity	
—repeated exposure:	GHS : Category 1 Causes damage to organs (Nervous system, respiratory organs, liver) through prolonged or repeated exposure.
Aspiration hazard:	GHS : No data available

## Section 12. Ecological information

Ecotoxicity:	
Hazards to the aquatic environment	
—acute toxicity:	GHS : No data available
—chronic toxicity:	GHS : Category 4 May cause long lasting harmful effects to aquatic life
Hazrdous the ozone layer:	GHS : No data available No Freon or Halon
Fish toxicity:	No data available
Degradability:	No data available
Bioaccumulative potential:	No data available
Mobility in soil:	No data available

## Section 13. 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 classification:	Non-hazards
UN number:	None
HS code:	2804.90
Marine pollution:	None
Precautions:	Container should be transported in a secure position, in a well-ventilated vehicle.
Marine pollution:	No

## Section 15. Regulatory information

TSCA inventory : listed.  
Please refer to any other local / national measures that may be relevant.

## Section 16. Other information

The information described above is believed to be correct. However, Kojundo Chemical Lab. makes no representation, warranty nor guarantee of any kind with respect to the information on this data sheet or any use of the product based upon this information.