

## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name Selenium Hexafluoride

### 1.2 Other means of identification

Product number

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Other names

SELENIUM HEXAFLUORIDE;Selenhexafluorid;Selenium fluoride

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses

Industrial and scientific research uses.

Uses advised against

no data available

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Skin corrosion, Sub-category 1A

Acute toxicity - Category 1, Inhalation

### 2.2 GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

Hazard statement(s)

H280 Contains gas under pressure; may explode if heated

H314 Causes severe skin burns and eye damage

H330 Fatal if inhaled

Precautionary statement(s)

Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash ... thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P271 Use only outdoors or in a well-ventilated area.

P284 [In case of inadequate ventilation] wear respiratory protection.

Response

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P316 Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P320 Specific treatment is urgent (see ... on this label).

Storage

P405 Store locked up.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

### 2.3 Other hazards which do not result in classification

no data available

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| Chemical name         | Common names and synonyms | CAS number | EC number | Concentration |
|-----------------------|---------------------------|------------|-----------|---------------|
| Selenium Hexafluoride | Selenium Hexafluoride     | 7783-79-1  | -         | 100%          |

## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.

Following skin contact

ON FROSTBITE: rinse with plenty of water, do NOT remove clothes. Rinse skin with plenty of water or shower. Refer for medical attention .

**Following eye contact**

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

**Following ingestion**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

**4.2 Most important symptoms/effects, acute and delayed**

no data available

**4.3 Indication of immediate medical attention and special treatment needed, if necessary**

no data available

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**SECTION 5: Fire-fighting measures****5.1 Suitable extinguishing media**

Use dry chemical, carbon dioxide or alcohol-resistant foam.

**5.2 Specific hazards arising from the chemical**

Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.

**5.3 Special protective actions for fire-fighters**

In case of fire in the surroundings, use appropriate extinguishing media. In case of fire: keep drums, etc., cool by spraying with water.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Evacuate danger area! Consult an expert! Ventilation. NEVER direct water jet on liquid. Personal protection: gas-tight chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment.

**6.2 Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

**6.3 Methods and materials for containment and cleaning up**

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

**7.2 Conditions for safe storage, including any incompatibilities**

Fireproof if in building. Cool. Ventilation along the floor. Separated from food and feedstuffs.

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**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational Exposure limit values**

TLV: 0.2 mg/m<sup>3</sup>, as TWA.MAK: (as Se, inhalable fraction): 0.02 mg/m<sup>3</sup>; peak limitation category: II(8); skin absorption (H); carcinogen category: 3B; pregnancy risk group: C

**Biological limit values**

no data available

**8.2 Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

**8.3 Individual protection measures, such as personal protective equipment (PPE)****Eye/face protection**

Wear face shield or eye protection in combination with breathing protection.

**Skin protection**

Protective gloves. Cold-insulating gloves.

**Respiratory protection**

Use ventilation, local exhaust or breathing protection.

**Thermal hazards**

no data available

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**SECTION 9: Physical and chemical properties and safety characteristics**

|                                                                 |                                    |
|-----------------------------------------------------------------|------------------------------------|
| <b>Physical state</b>                                           | colourless gas                     |
| <b>Colour</b>                                                   | no data available                  |
| <b>Odour</b>                                                    | no data available                  |
| <b>Melting point/freezing point</b>                             | -39.5°C                            |
| <b>Boiling point or initial boiling point and boiling range</b> | -34.5°C                            |
| <b>Flammability</b>                                             | no data available                  |
| <b>Lower and upper explosion limit/flammability limit</b>       | no data available                  |
| <b>Flash point</b>                                              | no data available                  |
| <b>Auto-ignition temperature</b>                                | no data available                  |
| <b>Decomposition temperature</b>                                | no data available                  |
| <b>pH</b>                                                       | no data available                  |
| <b>Kinematic viscosity</b>                                      | no data available                  |
| <b>Solubility</b>                                               | Solubility in water: slow reaction |
| <b>Partition coefficient n-octanol/water</b>                    | no data available                  |
| <b>Vapour pressure</b>                                          | no data available                  |
| <b>Density and/or relative density</b>                          | no data available                  |
| <b>Relative vapour density</b>                                  | no data available                  |
| <b>Particle characteristics</b>                                 | no data available                  |

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**SECTION 10: Stability and reactivity****10.1 Reactivity**

no data available

**10.2 Chemical stability**

no data available

**10.3 Possibility of hazardous reactions**

Decomposes on heating. This produces toxic and corrosive fumes including hydrogen fluoride and selenium.

**10.4 Conditions to avoid**

no data available

**10.5 Incompatible materials**

no data available

**10.6 Hazardous decomposition products**

no data available

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**SECTION 11: Toxicological information****Acute toxicity**

- Oral: no data available
- Inhalation: no data available
- Dermal: no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

#### **Reproductive toxicity**

no data available

#### **STOT-single exposure**

Corrosive. The substance is corrosive to the eyes and respiratory tract. Inhalation of this gas may cause lung oedema. See Notes. Rapid evaporation of the liquid may cause frostbite.

#### **STOT-repeated exposure**

no data available

#### **Aspiration hazard**

A harmful concentration of this gas in the air will be reached very quickly on loss of containment.

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## **SECTION 12: Ecological information**

### **12.1 Toxicity**

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

### **12.2 Persistence and degradability**

no data available

### **12.3 Bioaccumulative potential**

no data available

### **12.4 Mobility in soil**

no data available

### **12.5 Other adverse effects**

no data available

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## **SECTION 13: Disposal considerations**

### **13.1 Disposal methods**

#### **Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### **Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## **SECTION 14: Transport information**

### **14.1 UN Number**

|                                                     |                                                  |                                                  |
|-----------------------------------------------------|--------------------------------------------------|--------------------------------------------------|
| ADR/RID: UN2194 (For reference only, please check.) | IMDG: UN2194 (For reference only, please check.) | IATA: UN2194 (For reference only, please check.) |
|-----------------------------------------------------|--------------------------------------------------|--------------------------------------------------|

### **14.2 UN Proper Shipping Name**

|                                                                    |                                                                 |                                                                 |
|--------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|
| ADR/RID: SELENIUM HEXAFLUORIDE (For reference only, please check.) | IMDG: SELENIUM HEXAFLUORIDE (For reference only, please check.) | IATA: SELENIUM HEXAFLUORIDE (For reference only, please check.) |
|--------------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|

### **14.3 Transport hazard class(es)**

|                                                  |                                               |                                               |
|--------------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| ADR/RID: 2.3 (For reference only, please check.) | IMDG: 2.3 (For reference only, please check.) | IATA: 2.3 (For reference only, please check.) |
|--------------------------------------------------|-----------------------------------------------|-----------------------------------------------|

### **14.4 Packing group, if applicable**

|                                              |                                           |                                           |
|----------------------------------------------|-------------------------------------------|-------------------------------------------|
| ADR/RID: (For reference only, please check.) | IMDG: (For reference only, please check.) | IATA: (For reference only, please check.) |
|----------------------------------------------|-------------------------------------------|-------------------------------------------|

### **14.5 Environmental hazards**

|             |          |          |
|-------------|----------|----------|
| ADR/RID: No | IMDG: No | IATA: No |
|-------------|----------|----------|

### **14.6 Special precautions for user**

no data available

## 14.7 Transport in bulk according to IMO instruments

no data available

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

| Chemical name                                                            | Common names and synonyms | CAS number | EC number   |
|--------------------------------------------------------------------------|---------------------------|------------|-------------|
| Selenium Hexafluoride                                                    | Selenium Hexafluoride     | 7783-79-1  | -           |
| European Inventory of Existing Commercial Chemical Substances (EINECS)   |                           |            | Not Listed. |
| EC Inventory                                                             |                           |            | Not Listed. |
| United States Toxic Substances Control Act (TSCA) Inventory              |                           |            | Not Listed. |
| China Catalog of Hazardous chemicals 2015                                |                           |            | Listed.     |
| New Zealand Inventory of Chemicals (NZIoC)                               |                           |            | Not Listed. |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS)       |                           |            | Listed.     |
| Vietnam National Chemical Inventory                                      |                           |            | Not Listed. |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC) |                           |            | Not Listed. |
| Korea Existing Chemicals List (KECL)                                     |                           |            | Listed.     |

## SECTION 16: Other information

### Information on revision

Creation Date July 15, 2019  
Revision Date July 15, 2019

### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### Other Information

The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation is therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered. Turn leaking cylinder with the leak up to prevent escape of gas in liquid state.