



632 Prostřední Bečva  
756 56 Prostřední Bečva  
Czech Republic  
Phone +420 571 643 216  
Contact person: Jiri Matusik  
VAT CZ 26852357

## **SAFETY DATA SHEET**

### **According to Regulation (EC) No. 1907/2006 (REACH)**

## **SELENIUM**

Date: 06.04.2009 Version: 2.0 replaces version: 1.0 from 27.02.2005 pages: 12

### **1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION:**

#### **Substance/Preparation identification**

**Chemical name: SELENIUM**

**CAS No.: 7782-49-2**

**EINECS: 231-957-4**

**Molecular Weight: 78,96**

**Molecular formula: Se**

**PRE-REFERENCE NUMBER:**

#### **Use of the substance:**

Stain and de-colorant for glass industry and pigment industry.

#### **Company/Undertaking Identification:**

**The person responsible for commercial introduction of the substance in the EU:**

Headquarters: Prostřední Bečva 632, 756 56, Czech Republic  
Tel:+420 571 643 216  
Mobile: +420 608 770 335; +420 775077333  
Warehouse: Hranická 773, 757 01, Valašské Meziříčí  
VAT CZ 26852357

KLEMAT CZ Ltd.  
632 Prostřední Bečva  
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Czech Republic  
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## 2 HAZARDS IDENTIFICATION

### Classification

T; R23/25	Toxic by inhalation and if swallowed.
R33	Danger of cumulative effects.
R53	May cause long-term adverse effects in the aquatic environment.

### Hazard symbols

T

Toxic

### R phrases

23/25

Toxic by inhalation and if swallowed.

33

Danger of cumulative effects.

53

May cause long-term adverse effects in the aquatic environment.

## 3 COMPOSITION AND INFORMATION ON INGREDIENTS

Index no.	034-001-00-2
CAS no.	7782-49-2
EC no.	231-957-4

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Molecular weight	78,96
Formula	Se

## 4 FIRST AID MEASURES

**General information:** Remove affected person from danger area, lay him down. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing. In case of accident or if you feel unwell, seek medical advice immediately. If the patient is likely to become unconscious, place and transport in stable sideways position.

**After inhalation:** Remove affected person from the immediate area. Ensure supply of fresh air. Irregular breathing/no breathing: artificial respiration. Summon a doctor immediately.

**After skin contact:** When in contact with the skin, clean with soap and water.

**After eye contact:** Separate eyelids; wash the eyes thoroughly with water (15 min.). Eye treatment must be done by an oculist.

**After ingestion:** Call in a physician immediately and show him the Safety Data Sheet.

## 5 FIRE FIGHTING MEASURES

Sand; Metal fire powders

**Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases**

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In case of combustion evolution of dangerous gases possible. Formation of explosive mixtures with air is possible.

### **Special protective equipment for fire-fighters**

Use self-contained breathing apparatus. Wear protective clothing.

### **Other information**

Fire residues and contaminated firefighting water must be disposed off in accordance with the local regulations.

## **6 ACCIDENTAL RELEASE MEASURES**

### **Personal precautions**

Refer to protective measures listed in sections 7 and 8. Keep people away and stay on the upwind side. Avoid dust formation. Use breathing apparatus if exposed to vapors/dust/aerosol.

### **Environmental precautions**

Do not discharge into the drains/surface waters/groundwater.

### **Methods for cleaning up/taking up**

Pick up mechanically. Send in suitable containers for recovery or disposal.

## **7 HANDLING AND STORAGE**

### **Handling**

#### **Advice on safe handling**

Provide good ventilation of working area (local exhaust ventilation, if necessary).

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Avoid the formation and deposition of dust. If workplace exposure limits are exceeded, respiratory protection approved for this particular job must be worn.

### **Advice on protection against fire and explosion**

Avoid formation of dust. Keep away from sources of heat and ignition.

### **Storage**

#### **Requirements for storage rooms and vessels:**

Store product in closed containers. Keep only in the original container.

#### **Advice on storage assembly:**

Do not store together with foodstuffs.

#### **Do not store together with:**

Reducing agents

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

### **Occupational Exposure Standards (OESs) / EH40**

Selenium

TWA

0,1 mg/m<sup>3</sup>

### **Personal protective equipment**

**Respiratory protection:** If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. Short term: filter apparatus, Filter P3

**Hand protection:** Chemical resistant gloves (EN 374)

Appropriate Material - neoprene

**Eye protection:** Tightly fitting safety glasses (EN 166).

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**Skin protection:** Acid-resistant protective clothing

**General protective and hygiene measures:** Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Do not inhale dust. Store work clothing separately. Avoid contact with eyes and skin. Have eye wash fountain available. Have emergency shower available.

## 9 PHYSICAL AND CHEMICAL PROPERTIES

### General information

Form	Powder / granulates
Color	grey to black
Odor	odorless

### Important health, safety and environmental information

#### Changes in physical state

Melting point	217 °C
Boiling point	685 °C

#### Flash point

Remarks	not applicable
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#### Explosion limits

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Remarks

not applicable

### Vapor pressure

Value 1,33 hPa

Reference temperature 344,6 °C

Value 1010,8 hPa

Reference temperature 684,7 °C

### Density

Value 4,2 - 4,8 g/cm<sup>3</sup>

Reference temperature 25 °C

### Bulk density

Value Apprx. 2500 kg/m<sup>3</sup>

### Solubility in water

Remarks insoluble

## 10 STABILITY AND REACTIVITY

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**Conditions to avoid:** Very strong heating in air may cause combustion with the formation of toxic fumes.

**Materials to avoid:** With sufficiently strong reduction agents very toxic hydrogen selenide can be formed.

**Hazardous decomposition products:** No hazardous decomposition products known.

## 11 TOXICOLOGICAL INFORMATION

### Acute oral toxicity

LD50 6700 mg/kg

Species rat

Source RTECS

### Irritant effect on skin

Evaluation irritant

### Irritant effect on eyes

Evaluation irritant

## 12 ECOLOGICAL INFORMATION

### Ecotoxicity

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### **Fish toxicity**

EC50	> 100 mg/l
Species	Brachydanio rerio
Duration of exposure	96 h
Source	Bulletin of STDA, June 1993

### **Daphnia toxicity**

EC50	> 100 mg/l
Species	Daphnia magna
Duration of exposure	48 h
Source	Bulletin of STDA, June 1993

### **Algae toxicity**

EC50	> 100 mg/l
Species	Selenastrum capricornutum
Duration of exposure	72 h
Source	Bulletin of STDA, June 1993

Do not discharge into the drains or waters and do not store on public depositories.

## **13 WASTE DISPOSALS**

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Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

Packaging that cannot be cleaned should be disposed of in agreement with the regional waste disposal company.

## 14 TRANSPORT INFORMATION

### Land transport ADR/RID

The product is not defined under national/international road and rail transport regulations as a hazardous material.

### Marine transport IMDG

The product is not defined under IMDG regulations as a hazardous material for sea transport.

### Air transport ICAO/IATA

The product is not defined under ICAO/IATA regulations as a hazardous material for air transport.

## 15 REGULATORY INFORMATION

**EC regulations** This product is to be classified and labelled for shipment in compliance with the Directives 67/548/ EEC and 1999/45/EC

### Hazard symbols

**T** Toxic

### Risk phrases

**23/25**

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## 33 53

Toxic by inhalation and if swallowed. Danger of cumulative effects.

May cause long-term adverse effects in the aquatic environment.

### Safety phrases

**20/21** When using do not eat, drink or smoke.

**28.1** After contact with skin, wash immediately with plenty of water.

**45** In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**61** Avoid release to the environment. Refer to special instructions / Safety data sheets.

**Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances**

Annex I, part 2, category 2

## 16 OTHER INFORMATION

### Sources of key data used to compile the data sheet:

EC Directive 67/548/EC resp. 99/45/EC as amended in each case. Regulation (EC) No 1907/2006 (REACH) as amended in each case. EC Directives 2000/39/EC, 2006/15/EC as amended in each case.

National Threshold Limit Values of the corresponding countries as amended in each case. Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

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## **Recommended use restrictions**

Information contained in this Safety Data Sheet refers to this particular substance. It may be invalid in case this substance is used together with any other materials or in any other production process. The User bears responsibility for assessment of applicability and completeness of this information for his particular applications.

### **DISCLAIMER:**

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