

# SAFETY DATA SHEET

# spectrum®



Revision date 25-December-2023

Revision Number 2

## 1. Identification

### Product identifier

**Product Name** SELENIUM DIOXIDE, PURIFIED

### Other means of identification

**Product Code(s)** S1122

**UN/ID no** UN3283

**Synonyms** None

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

**Recommended use** No information available

**Restrictions on use** No information available

### Details of the supplier of the safety data sheet

#### Supplier Address

Spectrum Chemical Mfg. Corp.  
14422 South San Pedro St.  
Gardena, CA 90248  
(310) 516-8000

### Emergency telephone number

**Emergency Telephone** Chemtrec 1-800-424-9300

## 2. Hazard(s) identification

### Classification

Acute toxicity - Oral	Category 3
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1B
Germ cell mutagenicity	Category 1B
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 3

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

**Danger**

### Hazard statements

Toxic if swallowed  
Causes skin irritation  
Causes serious eye irritation  
May cause an allergic skin reaction  
May cause genetic defects  
Suspected of damaging fertility or the unborn child  
May cause respiratory irritation



**Appearance** Crystalline powder or  
Crystals

**Physical state** Solid

**Odor** No information available

#### **Precautionary Statements - Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wear protective gloves/protective clothing/eye protection/face protection  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Do not get in eyes, on skin, or on clothing  
Use only outdoors or in a well-ventilated area  
Contaminated work clothing must not be allowed out of the workplace  
Do not breathe dust/fume/gas/mist/vapors/spray

#### **Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention  
Specific treatment (see .? on this label)  
Specific treatment (see .? on this label)  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention  
IF ON SKIN: Wash with plenty of water and soap  
Immediately call a POISON CENTER or doctor  
Take off immediately all contaminated clothing and wash it before reuse  
If skin irritation or rash occurs: Get medical advice/attention  
Wash contaminated clothing before reuse  
IF INHALED: Remove person to fresh air and keep comfortable for breathing  
Call a POISON CENTER or doctor  
IF SWALLOWED: Immediately call a POISON CENTER or doctor  
Rinse mouth

#### **Precautionary Statements - Storage**

Store locked up.  
Store in a well-ventilated place. Keep container tightly closed

#### **Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

#### **Unknown acute toxicity**

#### **Other information**

Very toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

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

#### **Substance**

Chemical name	CAS No	Weight-%
Selenium Dioxide	7446-08-4	100

## 4. First-aid measures

### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen.
<b>Eye contact</b>	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area.
<b>Skin contact</b>	Get immediate medical advice/attention. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protective equipment as required. See section 8 for more information.

### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.
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### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	May cause sensitization in susceptible persons. Treat symptomatically.
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## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	Product is or contains a sensitizer. May cause sensitization by skin contact.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	none.
<b>Sensitivity to static discharge</b>	none.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

## **Personal precautions, protective equipment and emergency procedures**

<b>Personal precautions</b>	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.
<b>Other information</b>	Refer to protective measures listed in Sections 7 and 8.

## **Methods and material for containment and cleaning up**

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.

## **7. Handling and storage**

### **Precautions for safe handling**

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Do not breathe dust. Avoid generation of dust. Handle product only in closed system or provide appropriate exhaust ventilation.
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### **Conditions for safe storage, including any incompatibilities**

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.
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## **8. Exposure controls/personal protection**

### **Control parameters**

<b>Exposure Limits</b>	The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.
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### **Appropriate engineering controls**

<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
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### **Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Hand protection</b>	Wear suitable gloves. Impervious gloves.
<b>Skin and body protection</b>	Impervious clothing. Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**General hygiene considerations**

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Do not breathe dust. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace.

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

<b>Physical state</b>	Solid
<b>Appearance</b>	Crystalline powder or Crystals
<b>Color</b>	White to yellowish
<b>Odor</b>	No information available
<b>Odor threshold</b>	No information available

<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>
<b>pH</b>	Acidic	None known
<b>Melting point / freezing point</b>	Sublimation temperature: 340 °C / 644 °F	None known
<b>Boiling point / boiling range</b>	no data available	None known
<b>Flash point</b>	no data available	None known
<b>Evaporation rate</b>	no data available	None known
<b>Flammability (solid, gas)</b>	no data available	None known
<b>Flammability Limit in Air</b>		None known
<b>Upper flammability or explosive limits</b>	No data available	
<b>Lower flammability or explosive limits</b>	No data available	
<b>Vapor pressure</b>	No data available	None known
<b>Vapor density</b>	no data available	None known
<b>Relative density</b>	3.954	None known
<b>Water solubility</b>	Soluble in cold water	None known
<b>Solubility(ies)</b>	Partially soluble in acetone Partially soluble in methanol	None known
<b>Partition coefficient</b>	No data available	None known
<b>Autoignition temperature</b>	no data available	None known
<b>Decomposition temperature</b>		None known
<b>Kinematic viscosity</b>	no data available	None known
<b>Dynamic viscosity</b>	No data available	None known
<b>Other information</b>		
<b>Explosive properties</b>	No information available	
<b>Oxidizing properties</b>	No information available	
<b>Softening point</b>	No information available	
<b>Molecular weight</b>	110.96	
<b>VOC Content (%)</b>	No information available	
<b>Liquid Density</b>	No information available	
<b>Bulk density</b>	No information available	

## 10. Stability and reactivity

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	Excessive heat.
<b>Incompatible materials</b>	Strong acids. Strong bases. Strong oxidizing agents.

**Hazardous decomposition products** None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Toxic by inhalation. (based on components).
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Irritating to eyes. (based on components). Causes serious eye irritation.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Fatal in contact with skin. (based on components). May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Causes skin irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Toxic if swallowed. (based on components).

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Symptoms</b>	Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes. Coughing and/ or wheezing. Difficulty in breathing.
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### Acute toxicity

#### Numerical measures of toxicity

#### Unknown acute toxicity

#### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Selenium Dioxide 7446-08-4	= 48 mg/kg ( Rat ) = 68.1 mg/kg ( Rat )	= 4 mg/kg ( Rabbit )	-

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin corrosion/irritation</b>	Classification based on data available for ingredients. Irritating to skin.
<b>Serious eye damage/eye irritation</b>	Classification based on data available for ingredients. Causes serious eye irritation.
<b>Respiratory or skin sensitization</b>	May cause sensitization by skin contact.
<b>Germ cell mutagenicity</b>	Contains a known or suspected mutagen. Classification based on data available for ingredients. May cause genetic defects.
<b>Carcinogenicity</b>	No information available.
<b>Reproductive toxicity</b>	Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. Suspected of damaging fertility or the unborn child.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure.
<b>Aspiration hazard</b>	No information available.

<b>Other adverse effects</b>	No information available.
<b>Interactive effects</b>	No information available.

## 12. Ecological information

<b>Ecotoxicity</b>	Very toxic to aquatic life with long lasting effects.
<b>Persistence and degradability</b>	No information available.
<b>Bioaccumulation</b>	Inherently biodegradable.
<b>Other adverse effects</b>	No information available.

## 13. Disposal considerations

### Waste treatment methods

<b>Waste from residues/unused products</b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b>Contaminated packaging</b>	Do not reuse empty containers.

## 14. Transport information

### DOT

<b>UN/ID no</b>	UN3283
<b>Proper shipping name</b>	Selenium compound, solid, n.o.s.
<b>Hazard class</b>	6.1
<b>Special Provisions</b>	III
<b>Special Provisions</b>	IB8, IP3, T1, TP33
<b>Marine Pollutant Technical Name</b>	Selenium Dioxide
<b>Description</b>	UN3283, Selenium compound, solid, n.o.s. (Selenium Dioxide), 6.1, III, Marine pollutant

### TDG

<b>UN/ID no.</b>	UN3283
<b>Proper shipping name</b>	Selenium compound, solid, n.o.s.
<b>Hazard class</b>	6.1
<b>Packing Group</b>	III
<b>Special Provisions</b>	16
<b>Marine Pollutant Technical Name</b>	Selenium Dioxide.
<b>Description</b>	UN3283, Selenium compound, solid, n.o.s., 6.1, III

### MEX

<b>UN-No</b>	UN3283
<b>Proper Shipping Name</b>	Selenium compound, solid, n.o.s.
<b>Hazard class</b>	6.1
<b>Special Provisions</b>	223, 274
<b>Packing Group</b>	III
<b>Description</b>	UN3283, Selenium compound, solid, n.o.s., 6.1, III

### ICAO (air)

<b>UN/ID no.</b>	UN3283
<b>Hazard class</b>	6.1
<b>Packing Group</b>	III
<b>Special Provisions</b>	A3, A5

### IATA

UN number	UN3283
Hazard Class	6.1
Packing group	III
Emergency Response Guide Number	6L
Special Provisions	A3, A5

#### **IMDG**

UN number	UN3283
Hazard Class	6.1
Packing group	III
EmS-No	F-A, S-A
Special Provisions	223, 274
Marine Pollutant	P

#### **RID**

UN number	UN3283
Proper shipping name	SELENIUM COMPOUND, SOLID, N.O.S.
Hazard Class	6.1
Packing group	III
Classification code	T5
Special Provisions	274, 563
Description	UN3283, SELENIUM COMPOUND, SOLID, N.O.S. (Selenium Dioxide), 6.1, III, ENVIRONMENTALLY HAZARDOUS
Labels	6.1

#### **ADR**

UN number	UN3283
Proper shipping name	Selenium compound, solid, n.o.s.
Hazard Class	6.1
Packing group	III
Classification code	T5
Tunnel restriction code	(E)
Special Provisions	274, 563
Description	UN3283, Selenium compound, solid, n.o.s. (Selenium Dioxide), 6.1, III, (E), ENVIRONMENTALLY HAZARDOUS
Labels	6.1

#### **ADN**

UN/ID No	UN3283
Proper shipping name	Selenium compound, solid, n.o.s.
Hazard Class	6.1
Packing Group	III
Classification code	T5
Special Provisions	274, 563, 802
Description	UN3283, Selenium compound, solid, n.o.s. (Selenium Dioxide), 6.1, III, ENVIRONMENTALLY HAZARDOUS
Hazard label(s)	6.1
Equipment Requirements	PP, EP

## **15. Regulatory information**

### **International Inventories**

TSCA	Complies
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DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	This product complies with ENCS:
IECSC	This product complies with China:
KECL	Complies
PICCS	Complies
AICS	All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).



**Legend:****TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Selenium Dioxide - 7446-08-4	1.0

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Selenium Dioxide 7446-08-4	10 lb final RQ 4.54 kg final RQ	-

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Selenium Dioxide 7446-08-4	1651	Present	Environmental hazard

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

**16. Other information****NFPA**

**Health hazards** 4

**Flammability** 0

**Instability** 0

**Physical and chemical properties** -

**HMIS**

Health hazards 4 \*

Flammability 0

Physical hazards 0

Personal protection X

*Chronic Hazard Star Legend*

*\* = Chronic Health Hazard*

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling Maximum limit value

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

**Revision date**

25-December-2023

**Revision Note**

No information available.

**Disclaimer**

**The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.**

**End of Safety Data Sheet**