

SAFETY DATA SHEET

Preparation Date: No data available

Revision Date: 03/17/2015

Revision Number: G1

Product identifier

Product code: S1122
Product Name: SELENIUM DIOXIDE, PURIFIED

Other means of identification

Synonyms: Selenium oxide (1:2); Selenous anhydride
CAS #: 7446-08-4
RTECS # VS8575000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

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

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

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

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



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

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

Precautionary Statements - Prevention

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

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 soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
Selenium Dioxide 7446-08-4	7446-08-4	100	*

4. FIRST AID MEASURES**First aid measures****General Advice:**

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)

Skin Contact:

Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.

Eye Contact:

Flush eye with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

Inhalation:

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

Ingestion:

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Toxic if swallowed.

Most important symptoms and effects, both acute and delayed**Symptoms**

Causes eye irritation. Causes skin irritation. Toxic if swallowed. May cause irritation of respiratory tract. May cause allergic skin reaction.

Indication of any immediate medical attention and special treatment needed**Notes to Physician:**

Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES**Extinguishing Media****Suitable Extinguishing Media:**

The product is not flammable.

Unsuitable Extinguishing Media:

No information available.

Specific hazards arising from the chemical**Hazardous Combustion Products:**

No information available.

Specific hazards:

When heated to decomposition it emits toxic fumes

Special Protective Actions for Firefighters

Specific Methods: No information available.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak. Do not get water inside containers. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up Sweep up and shovel into suitable containers for disposal. Do not allow contact with water. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Do not allow contact with water. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials.

Incompatible Materials:

Acids. Organic materials. Reducing agents. Alcohols. Ammonia. Halogenated acids. Nitric acid. Phosphorus trichloride.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Selenium Dioxide 7446-08-4	None	None	None	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec
Selenium Dioxide 7446-08-4	None	None	None	None

Australia and Mexico

Components	Australia	Mexico
Selenium Dioxide 7446-08-4	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection: Goggles Safety glasses with side-shields

Skin and body protection: Chemical resistant apron. Gloves. Long sleeved clothing.

Respiratory protection: Effective dust mask Wear respirator with dust filter.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

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Physical state: Solid.	Appearance: Crystalline powder.	Color: White. Yellowish White.
Odor: Sour.	Taste Acid.	Molecular/Formula weight: 110.96
Formula: SeO ₂	Flammability: No information available	Flash point (°C): No data available
Flashpoint (°C/°F): No information available.	Flash Point Tested according to: Not available	Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available	Autoignition Temperature (°C/°F): No information available	pH: No information available
Melting point/range(°C/°F): Sublimation temperature: 340°C/644°F	Boiling point/range(°C/°F): No information available	Decomposition temperature(°C/°F): No information available
Bulk density: No information available	Specific gravity: 3.954	Vapor pressure @ 20°C (kPa): No information available
Density (g/cm³): No information available	Evaporation rate: No information available	Vapor density: No information available
VOC content (g/L): No information available	Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): No information available
Viscosity: No information available	Miscibility: No information available	Solubility: Soluble in cold water Partially soluble in acetone Partially soluble in methanol

10. STABILITY AND REACTIVITY

Reactivity

Reactive with acids
Reacts with reducing agents

Chemical stability

Stability: Stable under recommended storage conditions

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials.

Incompatible Materials: Acids. Organic materials. Reducing agents. Alcohols. Ammonia. Halogenated acids. Nitric acid. Phosphorus trichloride.

Hazardous decomposition products: No information available

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Ingestion. Inhalation.

Acute Toxicity

Component Information

Selenium Dioxide - 7446-08-4

LD50/oral/rat = 68.1 mg/kg Oral LD50 Rat

LD50/oral/mouse = 23.3 mg/kg Oral LD50 Mouse

LD50/dermal/rat = No information available

LD50/dermal/rabbit = No information available

LC50/inhalation/rat = No information available

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = 68.1mg/kg

LD50/oral/mouse =

Value - Acute Tox Oral = 23.3mg/kg

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat

VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat

VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms

Skin Contact:

Causes severe skin irritation and burns with itching, erythema, burning pain.

Eye Contact:

Causes severe irritation and possible burns. Persons who work in atmospheres containing selenium dioxide dust may develop a condition known as "rose eye", a pink allergy of the eyelids, which often become puffy. It may also cause conjunctivitis of the palpebral conjunctiva, but rarely of bulbar conjunctiva. May cause corneal injury.

Inhalation Breathing in dust can irritate nose (with dryness, nosebleeds), throat, mucous membranes of eyes, nose and throat, lungs (cough, phlegm), sternal pain, and/or shortness of breath. Higher exposure may cause build-up of fluid in the lungs (pulmonary edema). Acute exposure to fumes of Selenium oxide causes headache, nausea, vomiting, burning sensation in the nostrils with sneezing, dizziness, bronchospasm and severe dyspnea or breathing difficulties, followed by symptoms of fume metal fever characterized by flu-like symptoms with metallic taste, chest pain, weakness, fever, chills, increased white blood cell count, prolonged bronchitis, and pneumonitis. May cause spleen and liver damage.

Ingestion Toxic if swallowed. May cause severe gastrointestinal tract irritation with headache, nausea, vomiting, and possible burns. May affect the lungs (lung congestion), respiration (apnea), behavior/central nervous system (symptoms similar to inhalation), and cause liver and kidneys congestion or damage (somnolence, convulsions), respiration (apnea), asystole, diffuse swelling of the heart, and brain edema.

Aspiration hazard No information available

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

Chronic Toxicity No information available

Sensitization: May cause sensitization by skin contact

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Selenium Dioxide	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

Reproductive toxicity No data is available

Reproductive Effects: May cause heritable genetic damage. May cause harm to the unborn child. May impair fertility.

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available

STOT - repeated exposure No information available

Target Organs: Blood. Central nervous system. Kidneys. Liver. Spleen.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: No data available.

Persistence and degradability: No information available

Bioaccumulative potential: No information available

Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Selenium Dioxide	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN3283
Proper Shipping Name: Selenium compound, solid, n.o.s. (Selenium Dioxide)
Hazard Class: 6.1
Subsidiary Risk:
Packing Group: III
ERG No: 151
Marine Pollutant: No data available
DOT RQ (lbs): No information available

Symbol(s): G

TDG (Canada)

UN-No: UN3283
Proper Shipping Name: Selenium compound, solid, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Description: No information available

ADR

UN-No: UN3283
Proper Shipping Name: Selenium compound, solid, n.o.s.
Hazard Class: 6.1
Packing Group: III
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: UN3283
Proper Shipping Name: Selenium compound, solid, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available

14. TRANSPORT INFORMATION

Packing Group: III
Description: No information available
IMDG Page: No information available
Marine Pollutant: No information available
EMS: F-A
MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: UN3283
Proper Shipping Name: Selenium compound, solid, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Classification Code: No information available
Description: No information available

ICAO

UN-No: UN3283
Proper Shipping Name: Selenium compound, solid, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
Description: No information available

IATA

UN-No: UN3283
Proper Shipping Name: Selenium compound, solid, n.o.s.
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: III
ERG Code: 6L
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Selenium Dioxide</i>	Present	Present KE-30926	Present	Present (1)-546	Present	Present	Present 231-194-7

U.S. Regulations

Selenium Dioxide

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 1651
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List: Present
New York Release Reporting - List of Hazardous Substances:
 10 lb RQ
Louisiana Reportable Quantity List for Pollutants: 10lbfinal RQ
 4.54kgfinal RQ
California Directors List of Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Selenium Dioxide	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
Selenium Dioxide	10 lb final RQ 4.54 kg final RQ	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Selenium Dioxide	Not Applicable	Not Applicable

Canada**WHMIS hazard class:**

E Corrosive material

Selenium Dioxide

E

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Selenium Dioxide	1 %

Inventory

Components	Canada (DSL)	Canada (NDSL)
Selenium Dioxide	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Selenium Dioxide	Not listed	Not listed

EU Classification

R-phrase(s)

R23 - Toxic by inhalation.
R25 - Toxic if swallowed.
R33 - Danger of cumulative effects.
R38 - Irritating to skin.
R41 - Risk of serious damage to eyes.
R50 - Very toxic to aquatic organisms.
R53 - May cause long-term adverse effects in the aquatic environment.

S -phrase(s)

S 7 - Keep container tightly closed.
S 8 - Keep container dry.
S20 - When using do not eat or drink.
S21 - When using do not smoke.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 - After contact with skin, wash immediately with plenty of water
S36 - Wear suitable protective clothing.
S37 - Wear suitable gloves.
S39 - Wear eye/face protection.
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S46 - If swallowed, seek medical advice immediately and show this container or label.

Components	Classification	Concentration Limits:	Safety Phrases
Selenium Dioxide		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

None.

16. OTHER INFORMATION

16. OTHER INFORMATION

Revision Date: 03/17/2015
Prepared by: Sonia Owen

Disclaimer: All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet