

# SAFETY DATA SHEET: SELENIUM DIOXIDE

## 1. IDENTIFICATION

Product Name: SELENIUM DIOXIDE  
Synonyms: Selenium (IV) oxide; Selenious anhydride  
Formula and Formula Weight: SeO<sub>2</sub> 110.96  
Integra numbers beginning with: S138.50  
Recommended Use: Commercial/industrial use  
Restrictions on Use: No information available

INTEGRA Chemical Company **24 Hour Emergency Response: CHEMTREC 800-424-9300 (Outside USA 703-527-3887)**

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## 2. HAZARDS IDENTIFICATION

<u>OSHA Classification:</u>	<u>Hazard Category:</u>	<u>Hazard Statement:</u>
Acute Toxicity - Oral	3	Toxic if swallowed.
Acute Toxicity - Inhalation	3	Toxic if inhaled.
Specific Target Organ Toxicity (repeated exposure)	2	May cause damage to organs through prolonged or repeated exposure.

Signal Word: Danger



### Precautionary Statements

#### Prevention:

Do not breathe dust, fume, gas, mist, vapors, spray.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.

#### Response

If swallowed: Immediately call a poison center, doctor.  
If inhaled: Remove person to fresh air and keep comfortable for breathing.  
Call a poison center, doctor.  
Get medical advice, attention if you feel unwell.  
Specific treatment (see first aid section on this label)  
Rinse mouth.

#### Storage

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

#### Disposal

Dispose of contents, container in accordance with all governmental regulations.

Hazards Not Otherwise Classified: No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>Synonyms</u>	<u>CAS #</u>	<u>% Weight</u>
Selenium dioxide	Selenium (IV) oxide; Selenious anhydride	07746-08-4	100

## 4. FIRST AID MEASURES

Inhalation: Remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration. If breathing is difficult administer oxygen. Seek medical attention. Beware of delayed pneumonitis.

Eye Contact: Flush eyes with water for at least 15 minutes. Seek immediate medical attention.

Skin Contact: Immediately remove contaminated clothing. Flush skin with water for at least 15 minutes. Seek immediate medical attention.

Ingestion: Rinse mouth and give victim large quantities of water. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

Additional notes: Symptoms and effects include irritation of eyes, skin, nose, throat; visual disturbance; headache; chills, fever; breathing difficulty, bronchitis; metallic taste, garlic breath, gastrointestinal disturbance; dermatitis; eye, skin burns.

## 5. FIRE-FIGHTING MEASURES

Extinguishing Media: Material is not flammable. Use extinguishing media suitable to surrounding materials.

Special Equipment and Precautions: Use water to cool nearby containers and structures. Wear full protective equipment, including suitable

respiratory protection. Contain water runoff.  
Specific Hazards: Fire conditions may liberate toxic and noxious fumes.  
Hazardous combustion products: Selenous acid, toxic metal fumes

## 6. ACCIDENTAL RELEASE MEASURES

Spill Procedures: Remove all potential ignition sources. Prevent spread of spill. Wear suitable protective equipment. Sweep or scoop into disposal container in a manner that minimizes dust dispersion. Do not allow material to enter drains or the environment.

## 7. HANDLING AND STORAGE

Incompatible Materials: Incompatible with strong acids. Alcohols, ammonia, nitric acid, organic materials, halogen acids, phosphorous trichloride.  
Storage and Handling: Keep in a cool, dry, well-ventilated area dedicated to the storage of poisons. Protect from incompatible materials. Use handling procedures to minimize dust generation. Protect containers from physical damage.  
Do not breathe dust, fume, gas, mist, vapors, spray.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Use only outdoors or in a well-ventilated area.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

OSHA & ACGIH Exposure Limits:

Selenium dioxide OSHA TWA: 0.2 mg/m<sup>3</sup> (as Se) ACGIH TWA: 0.2 mg/m<sup>3</sup> (as Se)

Engineering Controls: Use general or local exhaust ventilation to meet TLV and PEL requirements.

Respiratory Protection: Respiratory protection required if airborne concentrations exceed PEL or TLV. Use a NIOSH approved respirator with a particulate filter.

Skin/Eye Protective Equipment: Safety goggles, protective clothing and gloves appropriate for the risk of exposure. Rubber gloves are recommended.

Facilities storing or utilizing this material should have readily accessible eyewash stations and safety showers. Select respirators and other safety equipment in accordance with regulations and based upon the particular conditions of use and risk of exposure. Always use safe chemical-handling and good industrial hygiene practices.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White crystals, turn slightly pink w/trace decomposition  
Odor: Pungent, sour odor  
Odor Threshold: Not available  
pH: Not available  
Melting/Freezing Point: 340 °C  
Initial Boiling Point and Boiling Range: Not available  
Flash Point: Not available  
Evaporation Rate: Not available  
Flammability: Not available  
Flammable or Explosive Upper: Not available  
Limits (% by volume in air) Lower: Not available  
Vapor Pressure: 12.5 mm Hg @70°C  
Vapor Density: Not available  
Relative Density: 3.95 g/cc  
Solubility: 38.4 g in 100 ml water @14°C  
Partition Coefficient: n-octanol/water Not available  
Auto-Ignition Temperature: Not available  
Decomposition Temperature: Not available  
Viscosity: Not available

## 10. STABILITY AND REACTIVITY

Reactivity: No information available  
Stability: Stable  
Possibility of Hazardous Reactions: Hazardous polymerization will not occur  
Conditions to Avoid: Excessive heat. Moisture.  
Incompatibles: Incompatible with strong acids. Alcohols, ammonia, nitric acid, organic materials, halogen acids, phosphorous trichloride.  
Decomposition Products: Selenous acid, toxic metal fumes

## 11. TOXICOLOGICAL INFORMATION

Effects of Over Exposure:

Inhalation: Harmful or fatal if inhaled Severe irritant with immediate and delayed effects. Coughing, difficult breathing, chills, garlic breath, fever, headache, chemical pneumonia and bronchial spasms.  
Skin Contact: Contact may cause irritation or burns. May lead to dermatitis and skin sensitization. May be harmful or fatal if absorbed through the skin. Absorption produces symptoms similar to ingestion or inhalation.  
Eye Contact: Dust or solution will severely irritate or burn the eyes. An allergic reaction, seen as redness and puffiness, may occur. Do

not wear contact lenses when handling material.

Ingestion: Harmful or fatal if swallowed. Will irritate mouth, throat, esophagus and stomach. Will cause nausea, pallor, coated tongue, and gastrointestinal disorders.

Chronic Effects: Dermatitis and skin sensitization may follow skin contact. Chronic toxicity may present itself as respiratory tract irritation, gastrointestinal symptoms, fatigue, pallor, metallic taste. Garlic breath is a sign of selenium absorption.

Target Organs: Eyes, skin, respiratory system, liver, kidneys. Blood, spleen.

Additional Effects: May aggravate pre-existing skin, respiratory, or digestive disorders. May cause visual disturbance, bronchitis.

Reproductive Effects: No information available

Carcinogenicity:

Selenium dioxide is listed by the IARC as Group 3, Unclassifiable (as Selenium and selenium compounds).

Toxicity Data:

Selenium dioxide	LD50 (oral, rat)	68 mg/kg
	LD50 (subcutaneous, rabbit)	4 mg/kg

**12. ECOLOGICAL INFORMATION**

	<u>Aquatic Toxicity Data:</u>	<u>Terrestrial Toxicity Data:</u>
Selenium dioxide	No information available	No information available
Persistence and degradability:	No information available	
Bioaccumulative potential:	No information available	
Mobility in soil:	No information available	
Other adverse effects:	No information available	

**13. DISPOSAL CONSIDERATIONS**

Disposal Procedures: Dispose of material and containers in accordance with all local, state and federal regulations.

**14. TRANSPORTATION INFORMATION**

This product is a regulated material for domestic ground transportation, per CFR Title 49.

UN Number: UN3283  
 Proper Shipping Name: Selenium compounds, solid, nos (selenium dioxide)  
 Packing Group: I  
 Hazard Class: 6.1  
 Environmental hazards: No information available  
 Special precautions: No information available  
 Bulk transport: No information available

**15. REGULATORY INFORMATION**

Selenium dioxide is listed in the TSCA inventory and in SARA 313 (as selenium compounds).

**16. OTHER INFORMATION**

OSHA SDS #: 26294 rev 101 3/27/2015

NE = Not established, NA = Not applicable or Not available

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\*\*\*\*\* END OF SDS \*\*\*\*\*