



### SAFETY DATA SHEET

#### 1. PRODUCT AND COMPANY IDENTIFICATION


1.1 Product identifiers		
i	Product Name	: <b>Selenium Dioxide</b>
ii	Chemical Formula	: O <sub>2</sub> Se
iii	CAS No.	: 7446-08-4
iv	EC No.	: 231-194-7
v	HSN Code	: 29332990
vi	Hazardous	: Yes
vii	Content	: Minimum 99%
viii	Appearance	: White cream coloured crystals
1.2 Relevant identified uses of the substance		
i	Identified uses	: Laboratory chemicals, toner in photography
1.3 Details of Manufacturer		
i	Company	: <b>Samrat Pharmachem Limited</b>
ii	Address	: Plot No. A2/3445, GIDC, Phase 4, Ankleshwar – 393002, Gujarat, India.
iii	Phone	: +91-7045456789 / 7046456789
iv	Email	: <a href="mailto:contact@samratpharmachem.in">contact@samratpharmachem.in</a>
v	Webpage	: <a href="http://www.samratpharmachem.com">www.samratpharmachem.com</a>
1.4 Emergency Number		
i	Emergency Phone	: +91-7045456789 / 7046456789

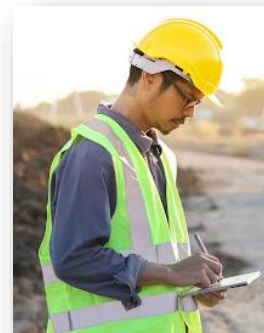


#### 2. HAZARD IDENTIFICATION

2.1 Classification of substance		
i	H301	Acute toxicity, Oral : (Category 3)
ii	H331	Acute toxicity, Inhalation : (Category 3)
iii	H373	Specific target organ toxicity-repeated exposure : (Category 2)
iv	H400	Short-term (acute) aquatic hazard : (Category 1)
v	H410	Long-term(chronic) aquatic hazard : (Category 1)



2.2 GHS Label elements, including precautionary statements	
i	Pictogram : 
ii	Signal word : Danger
iii	Hazard Statement(s)
	H301 + H331 : Toxic if swallowed or if inhaled H373 : May cause damage to organs through prolonged or repeated exposure. H410 : Very toxic to aquatic life with long lasting effects.
iv	Precautionary Statement(s)
	P260 : Do not breathe dust/ fume/ gas/ mist/ vapors/ spray P264 : Wash skin thoroughly after handling P273 : Avoid release to the environment P301 + P310 : IF SWALLOWED: Immediately call a Poison centre/ doctor. P304 + P340 + P311 : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a Poison centre / doctor Supplemental Hazard statement : None



2.3 Hazards not otherwise classified (HNOC) or not covered by GHS	
	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.



### 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances	
i	Molecular Weight : 110.96 g/mol
ii	Constituent Elements : O <sub>2</sub> Se



### 4. FIRST AID MEASURES

4.1 Symptoms	
i	<b>Most important symptoms and effects, both acute and delayed</b>
	Breathing Selenium dioxide can irritate the lungs causing coughing and/or shortness of breath. Higher exposures can cause a build-up of fluid in the lungs (pulmonary edema), a medical emergency, with severe shortness of breath. Exposure can cause headache, nausea, vomiting, abdominal pain, pallor and fatigue.
ii	<b>Indication of any immediate medical attention &amp; special treatment needed</b>
	If seeking medical attention, provide SDS document to physician.
4.2 Description of first aid measures	
i	<b>Inhalation</b> : If inhaled, move victim to fresh air. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
ii	<b>Ingestion</b> : Do NOT induce vomiting unless directed to do so by medical personnel. Rinse mouth out with water. If you feel still feel unwell, immediately make victim drink water (two glasses at least). Consult a doctor.
iii	<b>Skin contact</b> : Take off immediately all contaminated clothing. Wash skin with plenty of water. Cover the irritated skin with an emollient. If skin irritation occurs: Get medical advice/attention.
iv	<b>Eye contact</b> : Remove contact lenses, if present and easy to do. Continue rinsing. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.



### 5. FIRE FIGHTING MEASURES

5.1 Extinguishing media	
i	<b>Suitable extinguishing agents</b> : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
	<b>Unsuitable extinguishing agents</b> : For this substance/mixture no limitations of extinguishing agents are given.
ii	<b>Special hazards arising from the substance or mixture</b> : Selenium/selenium oxides, Not combustible. Ambient fire may liberate hazardous vapours.
iii	<b>Special remarks on Explosion Hazard</b> : No data available
iv	<b>Advice for firefighters</b> : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
v	<b>Additional information</b> : No additional information available





### 6. ACCIDENTAL RELEASE MEASURES

<b>6.1</b>	<b>Personal precautions, protective equipment &amp; emergency procedures</b>
	Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, and consult an expert.
<b>6.2</b>	<b>Environmental precautions</b>
	Do not let product enter drains. Use non-sparking tools and equipment. Pick up spill for recovery or disposal and place in a closed container.
<b>6.3</b>	<b>Methods and material for containment and cleaning up</b>
	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions. Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.



### 7. HANDLING AND STORAGE

<b>7.1</b>	<b>Precautions for safe handling</b>
	Avoid raising dust. Use earthed equipment. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep container tightly closed.  <b>Hygiene measures:</b> Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
<b>7.2</b>	<b>Conditions for safe storage, including any incompatibilities</b>
	<b>Storage conditions:</b> Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons. <b>Storage class:</b> Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects
<b>7.3</b>	<b>Specific end use(s)</b>
	Apart from the uses mentioned in section 1.2 no other specific uses are stipulated



### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>8.1</b>	<b>Control Parameters</b>
i	<b>Ingredients with workplace control parameters</b>
	No data available

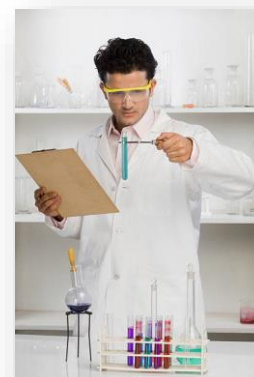


8.2 Exposure Controls	
i	<i>Appropriate engineering controls</i>
	Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation.
ii	<i>Personal protective equipment</i>
(a)	Eye / face protection
	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses
(b)	Skin Protection
	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
(c)	Body Protection
	Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
(d)	Respiratory protection
	Required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P2 The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
(e)	Control of environmental exposure
	Do not let product enter drains.



## 9. PHYSICAL & CHEMICAL PROPERTIES

<b>Appearance</b>	Form: Crystalline solid Colour: White to cream	<b>Explosiveness</b>	Non explosive
<b>Odour</b>	Pungent/ Rotten radishes	<b>Vapour pressure</b>	12.5 mmHg
<b>Odour threshold</b>	Not Applicable	<b>Relative vapour density at 20°C</b>	No data available
<b>pH-value</b>	2	<b>Relative density</b>	No data available
<b>Melting/Freezing point</b>	340°C	<b>Solubilities</b>	No data available
<b>Boiling point</b>	Not determined	<b>Partition coefficient (n-octanol/water)</b>	No data available
<b>Flash Point</b>	Not determined	<b>Auto/Self-ignition temperature</b>	No data available
<b>Evaporation rate</b>	No data available	<b>Decomposition temperature</b>	No data available
<b>Flammability</b>	No data available	<b>Viscosity</b>	No data available
<b>Density</b>	3.954 g/cm <sup>3</sup>	<b>Poison Class</b>	No data available





### 10. STABILITY & REACTIVITY

i	Reactivity	: Hygroscopic in nature
ii	Chemical stability	: The product is chemically stable under standard ambient conditions (room temperature) .
iii	Possible hazardous reactions	: No data available
iv	Conditions to avoid	: Avoid dust formation. Incompatible products. Exposure to moist air or water.
v	Incompatible material	: Strong oxidizing agents, Strong acids, Ammonia, Reducing Agent
vi	Hazardous decomposition products	: Carbon dioxide (CO <sub>2</sub> ), Carbon monoxide (CO)



### 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects			
i	Oral	LD50 Rat	48 mg / kg
ii	Dermal	LD50 Rabbit	4 mg / kg
11.2 Corrosion Irritation			
i	Serious eye damage / irritation		No data available
ii	Respiratory or skin irritation		Causes burns
iii	Germ cell mutagenicity		No data available
iv	Carcinogenicity		No data available
v	Reproductive Toxicity		No data available
11.3 Additional information			
i	No data available		



### 12. ECOLOGICAL INFORMATION

12.1 Toxicity			
i	Particulars	Type	Value
	Fish LC50	Pimephales promelas (fathead minnow)	2.9 mg/l
	Algae LC 50	Scenedesmus acutus	0.1 mg/l
ii	Ecology – general	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.	
iii	Ecology – air	No data available	
iv	Hazardous to aquatic environment – short term (acute)	No data available	
v	Hazardous to aquatic environment – long term (chronic)	No data available	





12.2 Persistence and degradability		
i	Persistence and degradability	Soluble in water Persistence is unlikely based on information available.
ii	Biodegradation	No data available
12.3 Bio accumulative potential		
i	BCF – Other aquatic organisms	No data available
ii	Partition coefficient n-octanol/water (Log Kow)	No data available
iii	Bioaccumulative potential	No data available
12.4 Mobility in Soil		
	Highly mobile in soil due to being soluble in water	
12.5 Results of PBT and vPvB assessment		
	No data available	
12.6 Other adverse effects		
	Not known	

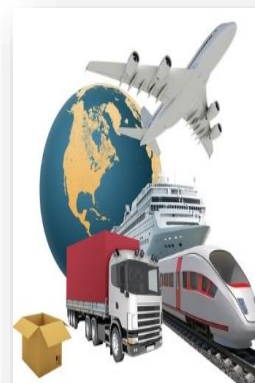
### 13. DISPOSAL CONSIDERATIONS

13.1 Waste disposal recommendation's	
i	General instructions
	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
ii	Product / Packaging disposal recommendations
	Avoid release to the environment




### 14. TRANSPORT INFORMATION

14.1 In accordance with ADR / IMDG / IATA / ADN / RID					
	ADR	IMDG	IATA	ADN	RID
i	UN Number				
	UN 3283	UN 3283	UN 3283	UN 3283	UN 3283
ii	UN proper shipping name				
	SELENIUM COMPOUND, SOLID, N.O.S.	SELENIUM COMPOUND, SOLID, N.O.S.	SELENIUM COMPOUND, SOLID, N.O.S.	SELENIUM COMPOUND, SOLID, N.O.S.	SELENIUM COMPOUND, SOLID, N.O.S.
iii	Transport hazard class				
	6.1	6.1	6.1	6.1	6.1



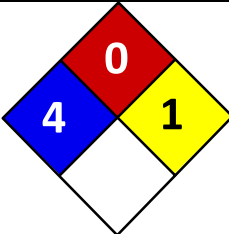


iv	Hazardous class symbols				
					
v	Packing group				
	II	II	II	II	II
vi	Environment hazards: Dangerous for the environment				
	Yes	Yes	Yes	Yes	Yes
vii	Marine Pollutant				
	NA	Yes	NA	NA	NA
<b>14.2 Transport in bulk according to annexure II of Marpol and the IBC Code</b>					
i	IBC Code		Not applicable		

### 15. REGULATORY INFORMATION

<b>15.1</b>	<b>Regulations</b>
i	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).
ii	This material safety data sheet complies with the requirements of Regulation (EC) No.1907/2006.

### 16. OTHER INFORMATION

<b>16.1</b>	<b>NFPA Rating</b>	
i	Health hazard	: 4 - Very short exposure could cause death or major residual injury.
ii	Fire hazard	: 0 - Materials that will not burn under typical dire conditions, including intrinsically non-combustible materials such as concrete, stone, and sand.
iii	Reactivity	: 1 - Normally stable, but can become unstable at elevated temperatures and pressures.



16.2 HMIS Rating		Health
		Fire
		Reactivity
		Personal Protection
i	Health	: No data available
ii	Flammability	: No data available
iii	Physical	: No data available
iv	Personal Protection	: No data available

16.3 Further Information	
	The above information is derived from the available literature & believed to be correct but may not be complete & conclusive. The company shall not be responsible for any damage resulting from handling or usage of the product. The information shall be used only as a guide.

**DISCLAIMER OF LIABILITY** The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable