

# Material Safety Data Sheet

## Selenium(iv) oxide, 99.999%

ACC# 82275

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Selenium(iv) oxide, 99.999%

**Catalog Numbers:** AC193980000, AC193980100, AC193980500

**Synonyms:** Selenious Anhydrid; Selenium Oxide; Selenium (IV) Dioxide

**Company Identification:**

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

**For information in North America, call:** 800-ACROS-01

**For emergencies in the US, call CHEMTREC:** 800-424-9300

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7446-08-4	SELENIUM(IV) OXIDE	99.999	231-194-7

**Hazard Symbols:** T

**Risk Phrases:** 23/25 33

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: off-white solid. **Danger!** Corrosive. Toxic. May cause allergic skin reaction. Harmful if swallowed. May cause blood abnormalities. Causes respiratory tract irritation. May cause digestive tract irritation. Causes severe eye burns. Causes skin burns. May cause liver and kidney damage. May cause central nervous system effects.

**Target Organs:** Blood, kidneys, central nervous system, liver, spleen.

#### Potential Health Effects

**Eye:** Causes severe eye burns. May result in corneal injury. May cause pink, puffy eyelids due to an allergic reaction.

**Skin:** Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Causes redness and pain.

**Ingestion:** Harmful if swallowed. May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May cause liver and kidney damage. May cause effects similar to those of acute inhalation.

**Inhalation:** Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. May cause spleen and liver damage.

**Chronic:** May cause liver and kidney damage. May cause anemia and other blood cell abnormalities. Repeated exposure may cause damage to the spleen. Chronic exposure to selenium may cause central nervous system effects, digestive tract disturbances, pallor, garlic breath, Chronic exposure to selenium may cause pallor, garlic breath, metallic taste, anemia, liver and spleen damage.

### Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed.

**Skin:** Get medical aid immediately. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Discard contaminated clothing in a manner which limits further exposure.

**Ingestion:** If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**Notes to Physician:** Treat symptomatically and supportively.

### Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Substance is noncombustible. Reacts with water to form corrosive acids.

**Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:**Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: ; Flammability: ; Instability:

### Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale.

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep containers tightly closed. Do not get water inside containers.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use adequate ventilation to keep airborne concentrations low.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
SELENIUM(IV) OXIDE	none listed	none listed	none listed

**OSHA Vacated PELs:** SELENIUM(IV) OXIDE: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

## Section 9 - Physical and Chemical Properties

**Physical State:** Solid

**Appearance:** off-white

**Odor:** pungent sour

**pH:** Not available.

**Vapor Pressure:** 12.5 mm Hg @70c

**Vapor Density:** Not available.

**Evaporation Rate:**Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:**340 deg C

**Decomposition Temperature:**Not available.

**Solubility:** Soluble in water.

**Specific Gravity/Density:**3.954

**Molecular Formula:**SeO2

**Molecular Weight:**110.9588

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.

**Conditions to Avoid:** Incompatible materials, contact with water.

**Incompatibilities with Other Materials:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Selenium/selenium oxides, selenious acid.

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

### RTECS#:

**CAS#** 7446-08-4: VS8575000

### LD50/LC50:

**CAS#** 7446-08-4:

Oral, mouse: LD50 = 23300 ug/kg;

Oral, rat: LD50 = 68100 ug/kg;

### Carcinogenicity:

**CAS#** 7446-08-4:

**IARC:** IARC Group 3 - not classifiable (listed as Selenium compounds).

**Epidemiology:** Available animal data are insufficient to allow an evaluation of the carcinogenicity of selenium compounds (IARC Monograph 1975, 9, 245-260). Further evaluation by the IPCS /WHO felt this was still valid in 1987 (Environmental Health Criteria No.58. Selenium 1987, WHO, Geneva).

**Teratogenicity:** No data available.

**Reproductive Effects:** No data available.

**Neurotoxicity:** No data available.

**Mutagenicity:** No data available.

**Other Studies:** No data available.

## Section 12 - Ecological Information

No information available.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
<b>Shipping Name:</b>	SELENIUM COMPOUND, N.O.S.				No information available.
<b>Hazard Class:</b>	6.1				
<b>UN Number:</b>	UN3283				
<b>Packing Group:</b>	III				

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 7446-08-4 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### SARA

#### CERCLA Hazardous Substances and corresponding RQs

CAS# 7446-08-4: 10 lb final RQ; 4.54 kg final RQ

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### Section 313

This material contains SELENIUM(IV) OXIDE (listed as Selenium compounds), 99 999%, (CAS# 7446-08-4) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

#### Clean Air Act:

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

#### Clean Water Act:

CAS# 7446-08-4 is listed as a Hazardous Substance under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 7446-08-4 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Massachusetts.

California No Significant Risk Level: None of the chemicals in this product are listed.

### European/International Regulations

#### European Labeling in Accordance with EC Directives

#### Hazard Symbols:

T

#### Risk Phrases:

R 23/25 Toxic by inhalation and if swallowed.

R 33 Danger of cumulative effects.

#### Safety Phrases:

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

S 24/25 Avoid contact with skin and eyes.

S 28 After contact with skin, wash immediately with...

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

S 7/8 Keep container tightly closed and dry.  
S 28A After contact with skin, wash immediately with plenty of water.

**WGK (Water Danger/Protection)**

CAS# 7446-08-4: 2

**Canada - DSL/NDL**

CAS# 7446-08-4 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of D1A, E.

**Canadian Ingredient Disclosure List**

CAS# 7446-08-4 is listed on the Canadian Ingredient Disclosure List.

**Exposure Limits**

CAS# 7446-08-4: OEL-ARAB Republic of Egypt:TWA 0.2 mg(Se)/m3 OEL-AUSTRALIA:TWA 0.2 mg(Se)/m3 OEL-BELGIUM:TWA 0.2 mg(Se)/m3 OEL-DENMARK:TWA 0.1 mg(Se)/m3 OEL-FINLAND:TWA 0.1 mg(Se)/m3;STEL 0.3 mg(Se)/m3 OEL-GERMANY:TWA 0.1 mg(Se)/m3 OEL-HUNGARY:STEL 0.1 mg(Se)/m3 OEL-THE NETHERLANDS:TWA 0.2 mg(Se)/m3 OEL-THE PHILIPPINES:TWA 0.2 mg(Se)/m3 OEL-POLAND:TWA 0.1 mg(Se)/m3 OEL-SWEDEN:TWA 0.1 mg(Se)/m3 OEL-SWITZERLAND:TWA 0.1 mg(Se)/m3 OEL-TURKEY:TWA 0.2 mg(Se)/m3 OEL-UNITED KINGDOM:TWA 0.1 mg(Se)/m3 OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

## Section 16 - Additional Information

**MSDS Creation Date:** 9/30/1998

**Revision #2 Date:** 3/18/2003

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