



LTS Research Laboratories, Inc.
Safety Data Sheet
Samarium Vanadium Oxide

1. Product and Company Identification

Trade Name:	Samarium Vanadium Oxide
Chemical Formula:	SmVO _x
Recommended Use:	Scientific research and development
Manufacturer/Supplier:	LTS Research Laboratories, Inc.
Street:	37 Ramland Road
City:	Orangeburg
State:	New York
Zip Code:	10962
Country:	USA
Tel #:	855-587-2436 / 855-lts-chem
24-Hour Emergency Contact:	800-424-9300 (US & Canada) +1-703-527-3887 (International)



2. Hazards Identification

Signal Word:

Danger



Hazard Statements:

H302 + H332: Harmful if swallowed or if inhaled
H318: Causes serious eye damage.
H335: May cause respiratory irritation.
H341: Suspected of causing genetic defects.
H361: Suspected of damaging fertility or the unborn child.
H372: Causes damage to organs through prolonged or repeated exposure.
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statements:

P202: Do not handle until all safety precautions have been read and understood.
P260: Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264: Wash skin thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.
P271: Use only outdoors or in a well-ventilated area.
P273: Avoid release to the environment.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312 + P330: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P304 + P340 + P312: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338 + P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P308 + P313: IF exposed or concerned: Get medical advice/ attention.
P391: Collect spillage.
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/ container to an approved waste disposal plant.

HMIS Health Ratings (0-4):

Health:	4
Flammability:	0
Physical:	0

3. Composition

Chemical Family: Ceramic
Additional Names: Samarium Vanadate

Samarium Vanadium Oxide (SmVO_x):

Percentage:	0-100 wt%
CAS #:	N/A
EC #:	N/A

4. First Aid Procedures

General Treatment:	Seek medical attention. Evacuate dangerous area.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Seek medical attention.
Ingestion:	Never induce vomiting or give anything by mouth to an unconscious person. Seek medical attention.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing. Seek immediate medical attention.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.

5. Firefighting Measures

Flammability:	Non-flammable
Extinguishing Media:	No special restrictions – use suitable extinguishing agent for surrounding material and type of fire.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

6. Accidental Release Measures

If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust. Avoid breathing vapors, mist or gas.
Environmental Precautions:	Isolate runoff to prevent environmental pollution. Do not let product enter drains.

7. Handling and Storage

Handling Conditions:	Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Opened containers must be resealed and kept upright to avoid leaks. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	0.05 mg/m ³ as V ₂ O ₅ , long-term value
Threshold Limit Value:	0.05 mg/m ³ as V ₂ O ₅ , long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Nitrile Rubber gloves
Eye Protection:	Face shield/ Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Dark gray
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	N/A
Water Solubility:	N/A
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	N/A

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents, Acids
Incompatible Conditions:	None
Hazardous Decomposition Products:	Metal oxide fume, Samarium oxides, Vanadium oxides, Vanadium

11. Toxicological Information

Potential Health Effects:	
Eyes:	May cause serious eye damage
Skin:	May cause irritation
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	2500 mg/kg for rat by mouth
Carcinogen:	IARC: 2B - Group 2B: Possibly carcinogenic to humans (Vanadium pentoxide) NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

12. Ecological Information

Aquatic Toxicity:	Toxicity to fish: LC50 - Oncorhynchus mykiss (rainbow trout) - 5.2 mg/l - 96.0 h
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Persistent Bioaccumulation Toxicity: Toxicity to daphnia and other aquatic invertebrates: LC50 - Daphnia magna (Water flea) - 1.52 mg/l - 48 h
N/A
Very Persistent, Very Bioaccumulative: N/A
Notes: Toxic to aquatic life with long lasting effects.
An environmental hazard may arise from an event of unprofessional handling or disposal.

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous: Hazardous as powder and pieces only.



Hazard Class: 6.1 Poisonous Material
Packing Group: III
UN Number: UN 3285
Proper Shipping Name: Vanadium compound, n.o.s (Samarium Vanadium Oxide)

15. Regulatory Information

Sec 302 Extremely Hazardous: No
Sec 304 Reportable Quantities: N/A
Sec 313 Toxic Chemicals: Yes

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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