

# SAFETY DATA SHEET

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## SECTION 1. IDENTIFICATION

**Product Identifier:** (4N) 99.99% Lithium Vanadate Nanoparticles

**Product Code:** LI-VO-04-NP

**CAS Number:** 15060-59-0

**Relevant identified uses of the substance:** Scientific research and development

Supplier details:

American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351  
Emergency telephone number:  
+1 800-424-9300

## SECTION 2. HAZARDS IDENTIFICATION

Classification

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

Acute oral toxicity Category 4

Acute Inhalation Toxicity - Dusts and Mists Category 4

Serious Eye Damage/Eye Irritation Category 2

Specific target organ toxicity (single exposure) Category 3

Target Organs - Respiratory system.

Label Elements



Signal Word

Warning

Hazard Statements

Causes serious eye irritation

May cause respiratory irritation

Harmful if swallowed or if inhaled

Precautionary Statements

Prevention

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  
Use only outdoors or in a well-ventilated area  
Wear eye/face protection  
Inhalation  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
Call a POISON CENTER or doctor/physician if you feel unwell  
Eyes  
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  
Ingestion  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth  
Storage  
Store in a well-ventilated place. Keep container tightly closed  
Store locked up  
Disposal  
Dispose of contents/container to an approved waste disposal plant  
Hazards not otherwise classified (HNOC)  
None identified

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Vanadate (VO31-), lithium  
15060-59-0

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### **SECTION 4. FIRST AID MEASURES**

General Advice If symptoms persist, call a physician.  
Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.  
Skin Contact Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.  
Inhalation Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.  
Ingestion Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.  
Most important symptoms and effects  
None reasonably foreseeable.  
Notes to Physician Treat symptomatically

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### **SECTION 5. FIREFIGHTING MEASURES**

Unsuitable Extinguishing Media No information available  
Flash Point No information available  
Method - No information available  
Autoignition Temperature No information available  
Explosion Limits

Upper No data available  
Lower No data available  
Sensitivity to Mechanical Impact No information available  
Sensitivity to Static Discharge No information available  
Specific Hazards Arising from the Chemical  
Keep product and empty container away from heat and sources of ignition.  
Hazardous Combustion Products  
None known.  
Protective Equipment and Precautions for Firefighters  
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.  
NFPA  
Health 2  
Flammability 0  
Instability 0  
Physical Hazards -

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal Precautions Ensure adequate ventilation. Use personal protective equipment as required.  
Avoid dust formation.  
Environmental Precautions Should not be released into the environment. See Section 12 for additional Ecological Information.  
Methods for Containment and Clean Up  
Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

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## **SECTION 7. HANDLING AND STORAGE**

Handling Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid dust formation. Do not get in eyes, on skin, or on clothing.  
Storage Keep containers tightly closed in a dry, cool and well-ventilated place.

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Eye/face Protection 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 and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.  
Respiratory Protection No protective equipment is needed under normal use conditions.  
Hygiene Measures  
Handle in accordance with good industrial hygiene and safety practice.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical State Solid  
Appearance Yellow

Odor No information available  
Odor Threshold No information available  
pH No information available  
Melting Point/Range No data available  
Boiling Point/Range No information available  
Flash Point No information available  
Evaporation Rate Not applicable  
Flammability (solid,gas) No information available  
Flammability or explosive limits  
Upper No data available  
Lower No data available  
Vapor Pressure No information available  
Vapor Density Not applicable  
Specific Gravity No information available  
Solubility No information available  
Partition coefficient; n-octanol/water No data available  
Autoignition Temperature No information available  
Decomposition Temperature No information available  
Viscosity Not applicable  
Molecular Formula  $\text{LiVO}_3$   
Molecular Weight 105.88

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactive Hazard None known, based on information available  
Stability Stable under normal conditions.  
Conditions to Avoid Incompatible products.  
Incompatible Materials Strong oxidizing agents  
Hazardous Decomposition Products None under normal use conditions  
Hazardous Polymerization Hazardous polymerization does not occur.  
Hazardous Reactions None under normal processing.

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Acute Toxicity  
Product Information  
Component Information  
Toxicologically Synergistic Products  
No information available  
Delayed and immediate effects as well as chronic effects from short and long-term exposure  
Irritation No information available  
Sensitization No information available  
Carcinogenicity  
IARC Not listed  
NTP Not listed  
ACGIH Not listed  
OSHA Not listed  
Mexico Not listed  
Mutagenic Effects No information available  
Reproductive Effects No information available.  
Developmental Effects No information available.

Teratogenicity No information available.  
STOT - single exposure Respiratory system  
STOT - repeated exposure None known  
Aspiration hazard No information available  
Symptoms / effects, both acute and delayed  
No information available  
Endocrine Disruptor Information No information available  
Other Adverse Effects The toxicological properties have not been fully investigated.

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## **SECTION 12. ECOLOGICAL INFORMATION**

Ecotoxicity  
Persistence and Degradability Soluble in water Persistence is unlikely based on information available.  
Bioaccumulation/ Accumulation No information available.  
Mobility Will likely be mobile in the environment due to its water solubility.

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste Disposal Methods 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.

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## **SECTION 14. TRANSPORT INFORMATION**

DOT  
UN-No UN3285  
Proper Shipping Name Vanadium compound, n.o.s.  
Technical Name (Lithium vanadium oxide)  
Hazard Class 6.1  
Packing Group III  
TDG  
UN-No UN3285  
Proper Shipping Name Vanadium compound, n.o.s.  
Hazard Class 6.1  
Packing Group III  
IATA  
UN-No UN3285  
Proper Shipping Name Vanadium compound, n.o.s.  
Hazard Class 6.1  
Packing Group III  
IMDG/IMO  
UN-No UN3285  
Proper Shipping Name Vanadium compound, n.o.s.  
Hazard Class 6.1  
Packing Group III

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## SECTION 15. REGULATORY INFORMATION

TSCA 12(b) - Notices of Export Not applicable

U.S. Federal Regulations

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and

Health Administration

Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S.

U.S. Department of Transportation

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland

Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.