



LTS Research Laboratories, Inc.  
Safety Data Sheet  
Gadolinium Vanadate

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1. Product and Company Identification

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Trade Name: Gadolinium Vanadate  
Chemical Formula:  $GdVO_4$   
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)

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2. Hazards Identification

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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  
H351: Suspected of causing cancer  
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 face, hands and any exposed 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 or doctor/physician if you feel unwell. Rinse mouth  
P304+P340+P312: 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  
P305+P351+P338+310: 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 or doctor/physician  
P308+P313: IF exposed or concerned: Get medical advice/attention

P337+P313: If eye irritation persists 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 in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):

Health:	3
Flammability:	0
Physical:	1

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### 3. Composition

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Chemical Family:	Ceramic
Additional Names:	Gadolinium orthovanadate

Gadolinium Vanadate (GdVO<sub>4</sub>):

Percentage:	100 wt%
CAS #:	13628-52-9
EC #:	237-113-1

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### 4. First Aid Procedures

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General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None

Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult. Get medical attention.
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Ingestion:	Give one to two glasses of water. Never induce vomiting or give anything by mouth to an unconscious person. Immediate medical attention required.
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Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing. Get medical attention.
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Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical attention.
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### 5. Firefighting Measures

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Flammability:	Non-flammable
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Extinguishing Media:	Use carbon dioxide, dry chemical, chemical foam, water spray or alcohol-resistant foam
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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.
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### 6. Accidental Release Measures

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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.
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Environmental Precautions:	Isolate runoff to prevent environmental pollution.
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## 7. Handling and Storage

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Handling Conditions:	Wash thoroughly after handling. Use personal protective equipment.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. 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. Avoid dust formation.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

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## 8. Exposure Controls and Personal Protection

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

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## 9. Physical and Chemical Characteristics

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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:	5.291 gm/cc
Molecular weight:	272.19 g/mol

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## 10. Reactivity

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Stability:	Hygroscopic. Air sensitive. Stable under recommended storage conditions
Reacts With:	Strong acids, Reducing agents, Finely powdered metals
Incompatible Conditions:	Exposure to moisture. Avoid dust formation. Exposure to air. Combustible material.
Hazardous Decomposition Products:	Gadolinium oxides, Vanadium/vanadium oxides

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## 11. Toxicological Information

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Potential Health Effects:	
Eyes:	Causes serious eye damage
Skin:	May cause irritation
Ingestion:	Harmful if swallowed
Inhalation:	Harmful if inhaled
Chronic:	N/A
Signs & Symptoms:	N/A

Aggravated Medical Conditions:	Suspected of causing genetic defects. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure
Median Lethal Dose:	LD50 Oral: >200 mg/kg for rat for V <sub>2</sub> O <sub>5</sub>
Carcinogen:	IARC: 2B - Group 2B: Possibly carcinogenic to humans (Vanadium pentoxide)

#### 12. Ecological Information

Aquatic Toxicity:	Toxic
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Toxic to aquatic life with long lasting effects. Should not be released into the environment.

#### 13. Disposal Considerations

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

#### 14. Transportation Data

Hazardous:	Hazardous as powder only
	
Hazard Class:	6.1 Poisonous Material
Packing Group:	III
UN Number:	UN 3285
Proper Shipping Name:	Vanadium compound, n.o.s. (Gadolinium Vanadate)

#### 15. Regulatory Information

Sec 302 Extremely Hazardous:	Yes (Vanadium oxide)
Sec 304 Reportable Quantities:	1000lb (Vanadium oxide)
Sec 313 Toxic Chemicals:	Yes (Vanadium oxide)

#### 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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