



XI'AN FUNCTION MATERIAL GROUP CO., LTD  
Material Safety Data Sheet  
Vanadium Oxide

---

1. Product and Company Identification

---

Trade Name: Vanadium Oxide  
Chemical Formula:  $V_2O_3$

Manufacturer/Supplier: XI'AN FUNCTION MATERIAL GROUP CO., LTD  
Street: No. 69, Gazelle Valley, High-Tech Zone  
City: XI'AN  
State: Shaanxi  
Zip Code: 710077  
Country: China  
Tel #: +86-29-88993870/+86-13519132051

---

2. Hazards Identification

---

Signal Word: Danger



Hazard Statements: H302+H332: Harmful if swallowed or if inhaled  
H310: Fatal in contact with skin  
H315 Causes skin irritation  
H319 Causes serious eye irritation  
H335: May cause respiratory irritation

Precautionary Statements: P261: Avoid breathing dust/fume/vapor  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.  
P361: Remove/Take off immediately all contaminated clothing  
P302+P350: IF ON SKIN: Gently wash with plenty of soap and water  
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

---

### 3. Composition

---

Chemical Family:	Ceramic
Additional Names:	Vanadium Trioxide, Vanadium (III) Oxide
Vanadium Oxide (V <sub>2</sub> O <sub>3</sub> ):	
Percentage:	100 wt%
CAS #:	1314-34-7
EC #:	215-230-9

---

### 4. First Aid Procedures

---

General Treatment:	Seek medical attention. Immediately remove any clothing soiled by the product. In case of irregular breathing or respiratory arrest provide artificial respiration.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion:	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

---

### 5. Firefighting Measures

---

Flammability:	Non-flammable
Extinguishing Media:	No special restrictions – use suitable extinguishing agent for surrounding material and type of fire. Do not use water for metal fires – use CO <sub>2</sub> , sand, extinguishing powder.
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.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

---

### 7. Handling and Storage

---

Handling Conditions:	Wash thoroughly after handling.
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.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

---

## 8. Exposure Controls and Personal Protection

---

Permissible Exposure Limits:	N/A
Threshold Limit Value:	N/A
Special Equipment:	None
Respiratory Protection:	Use a respirator with type P100 (USA) or P3 (EN143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.
Protective Gloves:	Nitrile rubber, NBR
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

---

## 9. Physical and Chemical Characteristics

---

Color	Black
Form:	Powder
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	1940 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	4.87 g/cc
Molecular weight:	149.48 g/mol

---

## 10. Reactivity

---

Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents
Incompatible Conditions:	None
Hazardous Decomposition Products:	Toxic metal oxide fume

---

## 11. Toxicological Information

---

Potential Health Effects:	
Eyes:	Causes serious eye irritation
Skin:	Fatal
Ingestion:	Harmful
Inhalation:	Harmful
Chronic:	N/A
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	556 mg/kg by mouth (rat) 200 mg/kg by skin (rabbit)
Carcinogen:	N/A

---

## 12. Ecological Information

---

Aquatic Toxicity:	N/A
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A

Notes: Do not allow material to be released to the environment without proper governmental permits.  
Do not allow undiluted product or large quantities to reach ground water, water course, or sewage system  
Avoid transfer into the environment

---

### 13. Disposal Considerations

---

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

---

### 14. Transportation Data

---

Hazardous: Hazardous for transportation.



Hazard Class: 6.1 Toxic substances  
Packing Group: II  
UN Number: UN3285  
Proper Shipping Name: Vanadium compound, n.o.s. (Vanadium (III) 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.

Document Last Revised: 12/27/2017