

---

## 1. Product and Company Identification

---

Trade Name: Vanadium carbide  
Chemical Formula: VC  
Recommended Use: Scientific research and development

Manufacturer/Supplier: Heeger Materials Inc.

Address: 230 Steele St Denver  
CO 80206  
United States

Tel #: +925-385-8104

24-Hour Emergency Contact: 800-424-9300 (US & Canada)  
+1-703-527-3887 (International)

---

## 2. Hazards Identification

---

Signal Word: Warning



Hazard Statements: H315 Causes skin irritation  
H319 Causes serious eye irritation  
H228: Flammable solid  
H335: May cause respiratory irritation

Precautionary Statements: P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking  
P261 Avoid breathing dust/fume/vapor  
P280: Wear protective gloves/protective clothing/eye protection/face protection  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing  
P405: Store locked up  
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):

Health:	1
Flammability:	2
Physical:	1

---

### 3. Composition

---

Chemical Family:	Ceramic
Additional Names:	None
Vanadium carbide (VC):	
Percentage:	100 wt%
CAS #:	12070-10-9
EC #:	235-122-5

---

### 4. First Aid Procedures

---

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.
Ingestion:	Seek medical attention.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing.
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, except as powder
Extinguishing Media:	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:	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.

---

## 9. Physical and Chemical Characteristics

---

Color	Black
Form:	Powder
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	2810 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	62.95 g/mol

---

## 10. Reactivity

---

Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents
Incompatible Conditions:	None
Hazardous Decomposition Products:	Metal oxide fume, Carbon monoxide, Carbon dioxide

---

## 11. Toxicological Information

---

Potential Health Effects:	
Eyes:	Causes serious eye irritation
Skin:	Causes skin irritation
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	Vanadium compounds act chiefly as an irritant to the eyes and respiratory tract. Exposure may cause conjunctivitis, rhinitis and reversible irritation of the respiratory tract. More severe cases may cause bronchitis, bronchospasms and asthma like disease. May cause polycythemia, red blood cell destruction and anemia, albuminuria and hematuria, gastrointestinal disorders, nervous complaints and severe cough.
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	N/A
Carcinogen:	N/A

---

## 12. Ecological Information

---

Aquatic Toxicity:	Low
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bioaccumulative:	No
Notes:	N/A

---

### 13. Disposal Considerations

---

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

---

### 14. Transportation Data

---

Hazardous: Hazardous as powder only.



Hazard Class: 4.1 Flammable solids, self-reactive substances and solid desensitized explosives

Packing Group: III

UN Number: UN3178

Proper Shipping Name: Flammable solid, inorganic, n.o.s. (Vanadium carbide)

---

### 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: 08/28/2023