

Vanadium Powder

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SAFETY DATA SHEET

1 PRODUCT AND SUPPLIER IDENTIFICATION

Product Name: Vanadium Powder

Formula: V

Supplier: ESPI Metals

1050 Benson Way

Ashland, OR 97520

Telephone: 800-638-2581

Fax: 541-488-8313

Email: sales@espimetals.com

Emergency: Infotrac 800-535-5053 (US) or 352-323-3500 (24 hour)

Recommended Uses: Scientific Research

2 HAZARDS IDENTIFICATION

GHS Classification (29 CFR 1910.1200): Flammable solids, category 2.

GHS Label Elements:



Signal Word: Warning

Hazard Statements: H228 Flammable solid.

Precautionary Statements: P210 Keep away from heat/sparks/open flames/hot surfaces - No smoking, P280 Wear protective gloves/protective clothing/eye protection/face protection, P370+P378 In case of fire: Use Class D dry chemical extinguishing agent for extinction.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient: Vanadium
CAS#: 7440-62-2
%: 100
EC#: 231-171-1

4 FIRST AID MEASURES

General Measures: Remove patient from area of exposure.

INHALATION: Remove to fresh air, keep warm and quiet, give oxygen if breathing is difficult. Seek medical attention.

INGESTION: Rinse mouth with water. Do not induce vomiting. Seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person.

SKIN: Remove contaminated clothing, brush material off skin, wash affected area with soap and water. Seek medical attention if irritation develops or persists.

EYES: Flush eyes with lukewarm water, including under upper and lower eyelids, for at least 15 minutes. Seek medical attention if irritation develops or persists.

Most Important Symptoms/Effects, Acute and Delayed: May cause irritation. See section 11 for more information.

Indication of Immediate Medical Attention and Special Treatment: No other relevant information available.

5 FIREFIGHTING MEASURES

Extinguishing Media: Use Class D dry powder extinguishing agent.

Unsuitable Extinguishing Media: Do not use water.

Specific Hazards Arising from the Material: Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, may be a potential dust explosion hazard. May release vanadium oxide fume if involved in a fire.

Special Protective Equipment and Precautions for Firefighters: Wear full face, self-contained breathing apparatus and full protective clothing.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures: Wear appropriate respiratory and protective equipment specified in section 8. Isolate spill area and provide ventilation. Avoid breathing dust or fume. Avoid contact with skin and eyes. Eliminate all sources of ignition.

Methods and Materials for Containment and Cleaning Up: Avoid dust formation. Use only non-sparking tools and natural bristle brushes. Scoop or vacuum up spill using a vacuum equipped with a HEPA filter. Place in properly labeled closed containers.

Environmental Precautions: Do not allow to enter drains or to be released to the environment.

7 HANDLING AND STORAGE

Precautions for Safe Handling: Handle in an enclosed, controlled process. Use non-sparking tools. Protect from sources of ignition. Avoid creating dust. Provide adequate ventilation if dusts are created. Avoid breathing dust or fumes. Avoid contact with skin and eyes. Wash thoroughly before eating or smoking. See section 8 for information on personal protection equipment.

Conditions for Safe Storage: Store in a cool, dry area. Store material tightly sealed in properly labeled containers, preferably under argon. Store away from heat and ignition sources. See section 10 for more information on incompatible materials.

8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Limits: Vanadium

OSHA/PEL: No exposure limit established

ACGIH/TLV: No exposure limit established

Engineering Controls: When working with finely divided powders, handle under argon in a controlled, enclosed environment. Ensure adequate ventilation to maintain exposures below occupational limits. Whenever possible the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne dust and fume to meet established occupational exposure limits. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Individual Protection Measures, Such as Personal Protective Equipment:

Respiratory Protection: Use suitable respirator when high concentrations are present.

Eye Protection: Safety glasses

Skin Protection: Impermeable gloves, protective work clothing as necessary.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Form: Powder

Color: Gray

Odor: Odorless

Odor Threshold: Not determined

pH: N/A

Melting Point: 1890±10 °C

Boiling Point: 3380 °C

Flash Point: N/A

Evaporation Rate: N/A

Flammability: Flammable solid

Upper Flammable Limit: No data

Lower Flammable Limit: No data

Vapor Pressure: No data

Vapor Density: N/A

Relative Density (Specific Gravity): 5.96 g/cc

Solubility in H₂O: Insoluble

Partition Coefficient (n-octanol/water): Not determined

Autoignition Temperature: No data

Decomposition Temperature: No data

Viscosity: N/A

10 STABILITY AND REACTIVITY

Reactivity: No data

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, may be a potential dust explosion hazard.

Conditions to Avoid: Heat, sparks, flame. Dusting conditions.

Incompatible Materials: Acids, strong oxidizers, strong bases, bromine trifluoride, chlorine, lithium, nitryl fluoride.

Hazardous Decomposition Products: Vanadium oxide fume.

11 TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, skin and eyes.

Symptoms of Exposure: May cause irritation if dusts or fumes are inhaled or swallowed. Fines/dusts may irritate skin and eyes.

Toxicological Effects: No data

Acute Toxicity: No data

Carcinogenicity: **NTP:** Not identified as carcinogenic **IARC:** Not identified as carcinogenic

To the best of our knowledge the chemical, physical and toxicological characteristics of the substance are not fully known.

12 ECOLOGICAL INFORMATION

Ecotoxicity: No data

Persistence and Degradability: No data

Bioaccumulative Potential: No data

Mobility in Soil: No data

Other Adverse Effects: Do not allow material to be released to the environment. No further relevant information available.

13 DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Product: Reuse or recycle material whenever possible. Dispose of in accordance with Federal, State and Local regulations.

Packaging: Dispose of in accordance with Federal, State and Local regulations.

14 TRANSPORT INFORMATION

UN Number: UN3089

UN Proper Shipping Name: Metal powder, flammable, n.o.s., (Vanadium)

Transport Hazard Class: 4.1

Packing Group: II

Marine Pollutant: No

15 REGULATORY INFORMATION

TSCA Listed: All components are listed.

Regulation (EC) No 1272/2008 (CLP): Flammable solids, category 2.

Canada WHMIS Classification (CPR, SOR/88-66): Flammable solids.

HMIS Ratings: Health: 1 Flammability: 2 Physical: 0

NFPA Ratings: Health: 1 Flammability: 2 Instability: 0

Chemical Safety Assessment: A chemical safety assessment has not been carried out.

16 OTHER INFORMATION

The information contained in this document is based on the state of our knowledge at the time of publication and is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. ESPI Metals makes no representation, warranty, or guarantee of any kind with respect to the information contained in this document or any use of the product based on this information. ESPI Metals shall not be held liable for any damages resulting from handling or from contact with the above product. Users should satisfy themselves that they have all current data relevant to their particular use.

Prepared by: ESPI Metals

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