

# MATERIAL SAFETY DATA SHEET



Complies with U.S. OSHA  
E.C. Guideline 91/155/EEC:  
Revision: 3  
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**EMERGENCY TELEPHONE NUMBERS:**  
NATIONAL RESPONSE CENTER: 1-800-424-8802  
CHEMTREC U.S. and CANADA: 1-800-424-9300  
CHEMTREC International: 1-202-483-7616 (Collect)

Users of this product are requested to study this data sheet to learn the product's characteristics so that the product can be used safely. If the material is resold, the purchaser should be furnished a copy of this data sheet and the information should be made available to all users.

## SECTION 1

### Chemical Product and Company Identification

**Product Trade Name** 40%, 50%, 65%, 75% or 85%  
**Vanadium-Aluminum**

**Article No.** V8, V9, V10

**Company Identification** Stratcor, Inc. Tel.: 1-412-787-4500  
4955 Steubenville Pike Fax: 1-412-787-5030  
Pittsburgh, Pennsylvania 15205; U.S.A.

**Inquiry Department** Stratcor, Inc., Pittsburgh, Pennsylvania; U.S.A.  
Tel.: 1-412-787-4500; www.stratcor.com

## SECTION 2

### Composition and Information on Ingredients

#### Chemical Characterization:

**Chemical Description** Vanadium-Aluminum Alloy.  
**UN Number** None.  
**DOT Guide** None.  
**CAS No.** 71243-93-1  
**EINECS No.** Vanadium – 231-171-1  
Aluminum – 231-072-3

This substance contains only vanadium-aluminum alloy with trace impurities.

## SECTION 3

### Hazards Identification

#### Potential Hazards for Humans and Animals:

**Eye Contact** Dust may irritate. Chips may cause corneal injury.

**Skin Contact** Dust may cause contact dermatitis with itching and rash.

**Inhalation** Dust may irritate the respiratory tract and cause chest tightness, wheezing, and coughing.

**Ingestion** No expected effects.

## SECTION 4

### First-Aid Measures

#### General Information:

**Inhalation** Leave dusty area. Get breathing assistance if necessary.

**Skin** Wash with soap and water.

**Eyes** Flush with water 15 minutes to remove particles. See an ophthalmologist.

**Ingestion** No expected emergency care anticipated.

## SECTION 5 Fire-Fighting Measures

<b>Suitable Extinguishing Media</b>	Class D fire. Use dry chemical, completely-dry sand or carbon dioxide to smother.
<b>Extinguishing Media Not to Be Used</b>	Water sprayed on burning material can liberate hydrogen gas.
<b>Special Exposure Hazards</b>	Avoid creating dust. Dust is combustible.
<b>Special Protective Equipment for Fire Fighters</b>	Full protective equipment including positive pressure-breathing apparatus.

## SECTION 6 Accidental- Release Measures

<b>Personal Precautions</b>	Skin, eye, and respiratory protection as needed by conditions.
<b>Environmental Precautions</b>	Not an environmentally-sensitive material.
<b>Cleaning Methods</b>	Vacuum preferred – or sweeping.
<b>Additional Information</b>	Avoid decontamination procedures which create airborne dusting. Use ventilation if necessary to control dusting. Avoid use of compressed air. Keep ignition sources away from spilled area.

## SECTION 7 Handling and Storage

<b>Handling</b>	Avoid procedures that cause dust. Keep away from sparks, heat, and open flame. Chunks may cause razor-sharp edges.
<b>Milling</b>	Precautions should be taken when crushing or milling this material to a fine-particle size (nominally less than 100 mesh with over 50% less than 200 mesh). Consideration should be given to performing these operations in an inert atmosphere or under vacuum.
<b>Storage</b>	Material should be kept dry and in closed containers. Keep away from sparks, heat, and open flame in a well-ventilated area away from combustible materials.

## SECTION 8 Exposure Controls and Personal Protection

<b>Recommendations on Equipment Designs</b>	Proper dust collection. Minimize dust during dumping operations. Avoid procedures that cause sparks.
<b>Occupational Exposure Limit</b>	1 mg vanadium/m <sup>3</sup> for vanadium alloys (NIOSH) 5 mg/m <sup>3</sup> for respirable dust (PNOR)** (OSHA) 15 mg/m <sup>3</sup> for total dust (PNOR)** (OSHA) **PNOR = Particles Not Otherwise Regulated.
<b>Personal Safety Equipment:</b>	
<b>Respiratory Protection</b>	Use respirators approved by NIOSH/MSHA or a competent local authority.
<b>Hand Protection</b>	Use protective gloves and barrier creams.
<b>Eye Protection</b>	Use face shields, face screens, goggles, or safety glasses with side shields.
<b>Skin Protection</b>	Not normally required. Chunks may have razor-sharp edges.
<b>Personal Hygiene</b>	Wash with soap and water after handling and before eating, drinking, or smoking.

## SECTION 9

# Physical and Chemical Properties

This MSDS reflects available research data and is not a product- or quality-specification document.

<b>Appearance:</b>	
<b>Physical State</b>	Solid.
<b>Form</b>	Granules or lumps.
<b>Color</b>	Silver metallic.
<b>Odor</b>	None.
<b>Change in Physical State:</b>	
<b>Melting Point</b>	1699 to 1873°C (3090 to 3403°F).
<b>Boiling Point</b>	Not available.
<b>Vapor Pressure</b>	Essentially zero.
<b>Flash Point</b>	Not applicable.
<b>Flammability</b>	Dust is combustible.
<b>Ignition Temperature</b>	Not applicable.
<b>Auto Flammability</b>	Not applicable.
<b>Oxidizing Properties</b>	None.
<b>Explosive Properties</b>	Dust is combustible.
<b>Bulk Density</b>	2.00 to 2.16 g/cm <sup>3</sup> (125 to 135 lb./ft <sup>3</sup> )
<b>Solubility in Water (20°C)</b>	Insoluble
<b>pH Value</b>	Not applicable.

## SECTION 10

# Stability and Reactivity

<b>Conditions to Avoid</b>	Situations which cause dusting.
<b>Incompatible Materials</b>	Strong acids, nitric acid, oxygen-enriched atmospheres.
<b>Hazardous Decomposition</b>	None

## SECTION 11

# Toxicological Information

<b>Acute Toxicity</b>	None located.
<b>Irritation</b>	Mild respiratory irritant. May be a mild skin irritant.
<b>Chronic Toxicity</b>	None noted.
<b>Carcinogen Status:</b>	
<b>IARC</b>	Not listed, International Agency for Research on Cancer
<b>NTP Annual Report</b>	Not listed, National Toxicology Program
<b>OSHA Subpart Z</b>	Not listed.
<b>U.S. EPA Genetic Toxicity</b>	Not listed, Genetic Toxicology Program
<b>Mutagen Status</b>	Not listed.
<b>Teratogen Status</b>	Not listed.

## SECTION 12

# Ecological Information

<b>Persistence and Degradability</b>	Will slowly oxidize to vanadium oxide.
<b>Aquatic Toxicity and Other Data Relating to Exotoxicity</b>	Not located. This substance is not soluble in water.

## SECTION 13 Disposal Considerations

<b>Product Recommendation</b>	This product contains no ingredients which are listed as Hazardous Substances by the U.S. EPA.
<b>Contaminated-Packaging Recommendation</b>	This product does not possess characteristics which may qualify as hazardous waste. Waste and containers may be disposed of in accordance with applicable local guidelines. Unused product may be returned to supplier for recycling.

## SECTION 14 Transport Information

<b>U.N. packaging requirements shall be met for air and non-U.S. shipments.</b>	
<b>Proper Shipping Description</b>	XX% VANADIUM-ALUMINIUM ALLOY No special labeling, placarding, or identification is required by any agency.
<b>Empty-Container Description</b>	None required.
<b>Land Transport</b>	U.S. DOT or appropriate local guidelines.
<b>Inland-Waterway Transport</b>	U.S. DOT or appropriate local guidelines.
<b>Sea Transport</b>	IMO / IMDG Code. Container shipments require a Container Packing Certificate.
<b>Air Transport</b>	ICAO-IT and IATA-DGR; no limit on quantity.

## SECTION 15 Regulatory Information

<b>Classification According to U.N. Guidelines</b>	None.
<b>E.C. Danger Symbol</b>	None.
<b>R-Phrases</b>	None.
<b>S-Phrases</b>	None.
<b>U.S. EPA TSCA Inventory</b>	Ingredients reported in the initial EPA TSCA Inventory.
<b>U.S. EPA SARA III, Section 302 and 304</b>	Notification may be required. Check local regulations.
<b>U.S. EPA SARA III, Section 311 and 312</b>	Notification may be required. Check local regulations.
<b>U.S. EPA SARA III, Section 313</b>	None required.
<b>Non-U.S. Requirements</b>	Refer to specific national guidelines.

## SECTION 16 Other Information

Data Sheet Prepared by:

 2-1-10

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Director of Technology; Hot Springs, Arkansas; U.S.A.

Strategic Minerals Corporation believes that the data on this sheet are correct as of the effective date and that the opinions given reflect those of qualified experts. Since Strategic Minerals cannot control the product or its use, it is the user's responsibility to use the product safely. The data on this sheet apply only to products sold by corporate subsidiaries of Strategic Minerals and may not apply to products sold by others.

### STRATCOR, Inc.

A Subsidiary of Strategic Minerals Corporation  
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*The material difference is value.*

40%, 50%, 65%, 75% or 85% Vanadium-Aluminium Alloy