

# MATERIAL SAFETY DATA SHEET



Complies with U.S. OSHA  
E.C. Guideline 91/155/EEC:

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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

<b>Product Trade Name</b>	<b>Ammonium Metavanadate (AMV)</b>
<b>Article No.</b>	MC3
<b>Company Identification</b>	Evrax Stratcor, Inc. Tel.: (501) 262-1270 4285 Malvern Road Fax: (501) 262-2793 Hot Springs, Arkansas 71901; USA
<b>Inquiry Department</b>	Evrax Stratcor, Inc.; Pittsburgh, PA; U.S.A. Tel.: 1-412-787-4500; <a href="http://www.evraxstratcor.com">www.evraxstratcor.com</a>

## SECTION 2

### Composition and Information on Ingredients

<b>Chemical Characterization:</b>	
<b>Chemical Description</b>	<b>Ammonium Metavanadate, NH<sub>4</sub>VO<sub>3</sub></b>
<b>UN Number</b>	<b>UN 2859</b>
<b>DOT Guide</b>	<b>154</b>
<b>CAS No.</b>	<b>7803-55-6</b>
<b>EINECS No.</b>	<b>232-61-3</b> ammonium trioxovanadate

This substance contains only ammonium metavanadate with trace impurities.

## SECTION 3

### Hazards Identification

<b>Potential Hazards for Humans and Animals:</b>	
<b>Eye Contact</b>	Irritation with possible corneal injury.
<b>Skin Contact</b>	Irritation with reddening and itching. Absorption of harmful amounts possible.
<b>Inhalation</b>	Irritation of the respiratory tract, chest tightness, wheezing, bloody nose, and coughing.
<b>Ingestion</b>	Abdominal discomfort, nausea, vomiting, cramping. Harmless greenish tongue discoloration.

## SECTION 4

### First-Aid Measures

<b>General Information:</b>	
<b>Inhalation</b>	Leave dusty area. Breathing assistance or oxygen if necessary.
<b>Skin</b>	Wash with soap and water. See a physician if irritation continues.
<b>Eyes</b>	Flush with water 15 minutes to remove particles. See an ophthalmologist.
<b>Ingestion</b>	Give two glasses of water. Induce vomiting if conscious. Call a physician.

## SECTION 5 Fire-Fighting Measures

<b>Suitable Extinguishing Media</b>	Not flammable. Use media suitable for surrounding fire.
<b>Extinguishing Media Not to Be Used</b>	None.
<b>Special Exposure Hazards</b>	Avoid creating dust. Decomposes with heating to ammonia and vanadium pentoxide. Explosive pressures may develop in tight containers. Ammonia may form explosive mixtures with air.
<b>Special Protective Equipment for Fire Fighters</b>	Full protective equipment including positive pressure-breathing apparatus. (See DOT Guide 154.)

## SECTION 6 Accidental- Release Measures

<b>Personal Precautions</b>	Skin, eye, and respiratory protection.
<b>Environmental Precautions</b>	Prevent entering sewage systems or surface water.
<b>Cleaning Methods</b>	Vacuum preferred – or sweeping. Addition of sand or sweeping compound is advisable.
<b>Additional Information</b>	Avoid decontamination procedures which create airborne dusting. Use ventilation if necessary to control dusting.

## SECTION 7 Handling and Storage

<b>Handling</b>	Vacuum dust at point of formation. Provide proper protective gear for handling dusty materials. Personnel should clean up after handling. Avoid areas where dust is present. Avoid heating above 80°C (176°F).
<b>Storage</b>	Keep dry and in closed containers. Avoid heating above 80°C (176°F). Keep away from foodstuffs.

## SECTION 8 Exposure Controls and Personal Protection

<b>Recommendations on Equipment Designs</b>	Proper dust collection. Minimize dust during dumping operations.
<b>Occupational Exposure Limit</b>	No specific PEL for ammonium metavanadate. Exposure data applies as noted, from DPIM, 10th Edition: 0.05 mg/m <sup>3</sup> for V <sub>2</sub> O <sub>5</sub> inhalable particulate matter, measured as vanadium (ACGIH TLV TWA) 0.05 mg V/m <sup>3</sup> for vanadium compounds, 15 minutes (NIOSH REL) 35 mg/m <sup>3</sup> PEL for ammonia from decomposition after heating (OSHA)
<b>Personal Safety Equipment:</b>	
<b>Respiratory Protection</b>	Use respirators approved by NIOSH/MSHA in dusty areas.
<b>Hand Protection</b>	Use protective gloves and barrier creams.
<b>Eye Protection</b>	Use goggles or safety glasses with side shields.
<b>Skin Protection</b>	Avoid contamination of work clothing.
<b>Personal Hygiene</b>	Wash or bathe 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.
<b>Color</b>	Ivory to straw-brown.
<b>Odor</b>	None.
<b>Change in Physical State:</b>	
<b>Melting Point</b>	Decomposes at 150°C (302°F). Decomposition becomes rapid at 200°C (392°F).
<b>Boiling Point</b>	Not applicable.
<b>Vapor Pressure</b>	Essentially zero.
<b>Flash Point</b>	Not applicable.
<b>Flammability</b>	Not applicable.
<b>Ignition Temperature</b>	Not applicable.
<b>Auto Flammability</b>	Not applicable.
<b>Oxidizing Properties</b>	May act as a catalyst in certain chemical environments.
<b>Explosive Properties</b>	None.
<b>Bulk Density</b>	1.2 to 1.3 g/cm <sup>3</sup> (75 to 80 lb./ft <sup>3</sup> )
<b>Solubility in Water (20°C)</b>	0.5 g per 100 cc.
<b>pH Value</b>	Not applicable.

## SECTION 10

# Stability and Reactivity

<b>Conditions to Avoid</b>	Situations which cause dusting or heating above 80°C (176°F).
<b>Incompatible Materials</b>	Aluminum powder. Releases ammonia when exposed to alkaline solutions.
<b>Hazardous Decomposition</b>	Decomposes upon heating to ammonia and vanadium pentoxide.

## SECTION 11

# Toxicological Information

<b>Acute Toxicity</b>	LD <sub>50</sub> orl-rat: 58.1 mg/kg. (DPIM, 10 <sup>th</sup> Edition) LC <sub>50</sub> ihi-rat: 7.8 mg/m <sup>3</sup> for 4 hr. (DPIM, 10 <sup>th</sup> Edition) Poison by •ngestión, inhalation, intraperitoneal, subcutaneous, intratracheal, and intravenous routes. Absorption by inhalation is nearly 100%.
<b>Irritation</b>	Respiratory and skin irritant. May cause asthmatic reaction or allergic skin reaction in susceptible individuals.
<b>Chronic Toxicity</b>	EXTREME or repeated overexposure may cause chronic bronchitis, allergic skin reaction, or asthmatic reaction with possible lung injury in susceptible individuals. When exposure ceases, effects are usually reversible.
<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>	Reported, Genetic Toxicology Program
<b>Mutagen Status</b>	No listings found.
<b>Teratogen Status</b>	ipr-ham: 11280 µg/kg (5-10 D). (DPIM, 10th Edition)

## SECTION 12

# Ecological Information

<b>Persistence and Degradability</b>	Does not readily deteriorate in the environment.
<b>Aquatic Toxicity and Other Data Relating to Ecotoxicity</b>	Not located. This substance is slightly soluble in water.
<b>Further Information</b>	None.

## SECTION 13 Disposal Considerations

<b>Product Recommendation</b>	Listed as an acutely hazardous waste when discarded.
<b>Empty-Container Recommendation</b>	U.S. EPA classifies discarded product, non-RCRA empty containers and liners, or spill residue as <b>P119</b> waste.

## SECTION 14 Transport Information

<b>U.S. packaging requirements shall be met for all modes of transportation for U.S. and international shipments.</b>	
<b>Proper Shipping Name</b>	Ammonium Metavanadate
<b>Proper Shipping Description</b>	UN 2859, Ammonium Metavanadate, 6.1, II.
<b>Labeling</b>	Toxic labels.
<b>Placarding</b>	Placards with ID #2859 are required on all bulk packaging shipments and non-bulk packaging shipments in which the aggregate weight is 454 kg (1001lbs.) or more. Toxic placards for shipments.
<b>Land Transport</b>	Regulated by U.S. DOT (CFR Parts 100 to 185).
<b>Ocean Transport</b>	Regulated by IMDG (IMDG Code Volume I and II).
<b>Air Transport</b>	Regulated by IATA (Dangerous Goods Regulations). Passenger aircraft is limited to 25 kg; cargo aircraft is limited to 100 kg; "limited quantity" is limited to 1 kg.
<b>International Transport</b>	Regulated by U.N. TDG regulations.

## SECTION 15 Regulatory Information

<b>Classification According to U.N. Guidelines</b>	Toxic, 6.1.
<b>E.C. Danger Symbol</b>	
<b>R-Phrases</b>	None listed.
<b>S-Phrases</b>	None listed.
<b>TSCA Inventory</b>	Reported in the initial EPA TSCA Inventory.
<b>CERCLA RQ – 40 CFR 302.4(a)</b>	Ammonium metavanadate is a listed hazardous substance with a reportable quantity (RQ) of 1000 lbs. Notification to NRC required for spills to the environment in excess of the RQ.
<b>SARA 302 Components – 40 CFR 355, Appendix A</b>	EHS – Not listed. TPQ – Not listed.
<b>Section 311/12 Hazard Class - 40 CFR 370.2</b>	Acute: Yes. Chronic: Yes. Fire: No. Pressure: No. Reactivity: No. Review appropriate regulations for possible Tier II requirements.
<b>Section 313 – 40 CFR 372.65</b>	Reportable chemical categories: vanadium and vanadium compounds.
<b>Non-U.S. Requirements</b>	Refer to specific national guidelines.

## SECTION 16 Other Information

Data Sheet Prepared by:  10-1-11  
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Evrax Stratcor, Inc. 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 Evrax Stratcor 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 Evrax Stratcor and may not apply to products sold by others.

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