

MATERIAL SAFETY DATA SHEET



Complies with U.S. OSHA
E.C. Guideline 91/155/EEC:
Revision: 4
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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	Ammonium Metavanadate (AMV)
Article No.	MC3
Company Identification	Stratcor, Inc. Tel.: (501) 262-1270 4285 Malvern Road Fax: (501) 262-2793 Hot Springs, Arkansas 71901; USA
Inquiry Department	Stratcor, Inc.; Pittsburgh, PA; USA Tel.: 1-412-787-4500; www.stratcor.com

SECTION 2 Composition and Information on Ingredients

Chemical Characterization:	
Chemical Description	Ammonium Metavanadate, NH_4VO_3
UN Number	UN 2859
DOT Guide	154
CAS No.	7803-55-6
EINECS No.	232-61-3 ammonium trioxovanadate

This substance contains only ammonium metavanadate with trace impurities.

SECTION 3 Hazards Identification

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

SECTION 4 First-Aid Measures

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

SECTION 5 Fire-Fighting Measures

Suitable Extinguishing Media	Not flammable. Use media suitable for surrounding fire.
Extinguishing Media Not to Be Used	None.
Special Exposure Hazards	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.
Special Protective Equipment for Fire Fighters	Full protective equipment including positive pressure-breathing apparatus. (See DOT Guide 154.)

SECTION 6 Accidental- Release Measures

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

SECTION 7 Handling and Storage

Handling	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).
Storage	Keep dry and in closed containers. Avoid heating above 80°C (176°F). Keep away from foodstuffs.

SECTION 8 Exposure Controls and Personal Protection

Recommendations on Equipment Designs	Proper dust collection. Minimize dust during dumping operations.
Occupational Exposure Limit	No specific PEL for ammonium metavanadate. Exposure data applies as noted, from DPIM, 10th Edition: 0.05 mg/m ³ for V ₂ O ₅ inhalable particulate matter, measured as vanadium (ACGIH TLV TWA) 0.05 mg V/m ³ for vanadium compounds, 15 minutes (NIOSH REL) 35 mg/m ³ PEL for ammonia from decomposition after heating (OSHA)
Personal Safety Equipment:	
Respiratory Protection	Use respirators approved by NIOSH/MSHA in dusty areas.
Hand Protection	Use protective gloves and barrier creams.
Eye Protection	Use goggles or safety glasses with side shields.
Skin Protection	Avoid contamination of work clothing.
Personal Hygiene	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.

Appearance:	
Physical State	Solid.
Form	Granules.
Color	Ivory to straw-brown.
Odor	None.
Change in Physical State:	
Melting Point	Decomposes at 150°C (302°F). Decomposition becomes rapid at 200°C (392°F).
Boiling Point	Not applicable.
Vapor Pressure	Essentially zero.
Flash Point	Not applicable.
Flammability	Not applicable.
Ignition Temperature	Not applicable.
Auto Flammability	Not applicable.
Oxidizing Properties	May act as a catalyst in certain chemical environments.
Explosive Properties	None.
Bulk Density	1.2 to 1.3 g/cm ³ (75 to 80 lb./ft ³)
Solubility in Water (20°C)	0.5 g per 100 cc.
pH Value	Not applicable.

SECTION 10

Stability and Reactivity

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

SECTION 11

Toxicological Information

Acute Toxicity	LD ₅₀ orl-rat: 58.1 mg/kg. (DPIM, 10 th Edition) LC ₅₀ ihi-rat: 7.8 mg/m ³ for 4 hr. (DPIM, 10 th Edition) Poison by ingestion, inhalation, intraperitoneal, subcutaneous, intratracheal, and intravenous routes. Absorption by inhalation is nearly 100%.
Irritation	Respiratory and skin irritant. May cause asthmatic reaction or allergic skin reaction in susceptible individuals.
Chronic Toxicity	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.
Carcinogen Status:	
IARC	Not listed, International Agency for Research on Cancer
NTP Annual Report	Not listed, National Toxicology Program
OSHA Subpart Z	Not listed.
U.S. EPA Genetic Toxicity	Reported, Genetic Toxicology Program
Mutagen Status	No listings found.
Teratogen Status	ipr-ham: 11280 µg/kg (5-10 D). (DPIM, 10th Edition)

SECTION 12

Ecological Information

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

SECTION 13 Disposal Considerations

**Product
Recommendation**

Listed as an acutely hazardous waste when discarded.

**Empty-Container
Recommendation**

U.S. EPA classifies discarded product, non-RCRA empty containers and liners, or spill residue as **P119** waste.

SECTION 14 Transport Information

U.S. packaging requirements shall be met for all modes of transportation for U.S. and international shipments.

Proper Shipping Name

Ammonium Metavanadate

Proper Shipping Description

UN 2859, Ammonium Metavanadate, 6.1, II.

Labeling

Toxic labels.

Placarding

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.

Land Transport

Regulated by U.S. DOT (CFR Parts 100 to 185).

Ocean Transport

Regulated by IMDG (IMDG Code Volume I and II).

Air Transport

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.

International Transport

Regulated by U.N. TDG regulations.

SECTION 15 Regulatory Information

**Classification According to U.N.
Guidelines**

Toxic, 6.1.

**E.C. Danger Symbol
R-Phrases
S-Phrases**

None listed.

None listed.

TSCA Inventory

Reported in the initial EPA TSCA Inventory.

**CERCLA RQ –
40 CFR 302.4(a)**

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.

**SARA 302 Components –
40 CFR 355, Appendix A**

EHS – Not listed.

TPQ – Not listed.

**Section 311/12 Hazard Class -
40 CFR 370.2**

Acute: Yes. Chronic: Yes. Fire: No. Pressure: No. Reactivity: No. Review appropriate regulations for possible Tier II requirements.

Section 313 – 40 CFR 372.65

Reportable chemical categories: vanadium and vanadium compounds.

Non-U.S. Requirements

Refer to specific national guidelines.

SECTION 16 Other Information

Data Sheet Prepared by:


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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.

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The material difference is value.

Ammonium Metavanadate

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