
MSDS Number: **A6300** * * * * * *Effective Date: 07/03/07* * * * * * *Supersedes:*
05/07/07



From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865



24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. And Canada
Chemtec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

Ammonium meta-Vanadate

1. Product Identification

Synonyms: Ammonium Vanadate(V); Vanadic Acid, Ammonium Salt

CAS No.: 7803-55-6

Molecular Weight: 116.98

Chemical Formula: NH₄VO₃

Product Codes: 0715

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
Hazardous		
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Vanadic Acid, Ammonium Salt	7803-55-6	98 - 100%
Yes		

3. Hazards Identification

Emergency Overview

**POISON! DANGER! MAY BE FATAL IF SWALLOWED OR INHALED.
CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.**

SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 4 - Extreme (Poison)

Flammability Rating: 0 - None

Reactivity Rating: 1 - Slight

Contact Rating: 2 - Moderate

Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

Storage Color Code: Blue (Health)

Potential Health Effects

An estimated 25% of inhaled ammonium metavanadate and 0.1 to 1% of that ingested is absorbed in the body and widely distributed throughout. It is a potent enzyme inhibitor (sodium, potassium, calcium and magnesium ATPase; choline esterase, cholesterol synthetase, and tyrosinase). Systemic effects are not proven, but it is suggested that generalized weakness, ringing in the ears, nausea, vomiting, and headache may occur. The estimated half-life in the human body is estimated at 1 to 4 days.

Inhalation:

Highly Toxic fume, mist, dust. Exposure can injure the lungs and bronchial airways. Symptoms include irritation and inflammation of the mucous membranes, nasal passages and pharynx, a greenish-black discoloration of the tongue, persistent cough, shortness of breath, bronchiolar constriction, tightness in the chest. An asthma-like condition may occur. May result in pulmonary edema/pneumonia. May be fatal. Pulmonary edema may be delayed up to 48 hours.

Ingestion:

Highly toxic. Ingestion may be fatal. Symptoms may include nausea, headache, and vomiting.

Skin Contact:

Causes irritation to skin. Symptoms include redness, itching, and pain. May develop skin rash or lesions with intense itching.

Eye Contact:

Causes irritation, redness, and pain.

Chronic Exposure:

Repeated exposure may cause a greenish tongue, metallic taste in the mouth, cough and chronic bronchitis (with or without emphysema). Repeated skin contact can lead to allergic dermatitis.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion:

Get medical attention immediately. Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

Skin Contact:

Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

Not expected to be a fire hazard.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

Wear special protective equipment (Sec. 8) for maintenance break-in or where exposures may exceed established exposure levels. Wash hands, face, forearms and neck when exiting restricted areas. Shower, dispose of outer clothing, change to clean garments at the end of the day. Avoid cross-contamination of street clothes. Wash hands before eating and do not eat, drink, or smoke in workplace.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

OSHA Permissible Exposure Limit (PEL):

Vanadium Respirable Dust, as V₂O₅, 0.5 mg/m³ (Ceiling)

Vanadium Fume, as V₂O₅, 0.1 mg/m³ (Ceiling)

ACGIH Threshold Limit Value (TLV):

Vanadium Pentoxide, as V₂O₅, respirable dust or fume,
0.05 mg/m³ (TWA), A4, Not classifiable as a human carcinogen

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

White or yellowish-white crystalline granules.

Odor:

Odorless.

Solubility:

Slight (0.1-1%)

Specific Gravity:

2.33

pH:

No information found.

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

No information found.

Melting Point:

200C (392F)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

Oxides of vanadium. Burning may produce ammonia, nitrogen oxides.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

No information found.

Conditions to Avoid:
Incompatibles. Excessive dust generation.

11. Toxicological Information

Oral rat, LD50: 58.1 mg/kg; inhalation rat, LC50: 7.8 mg/m³/4-hour. Investigated as a mutagen, reproductive effector.

-----\Cancer Lists\-----

Ingredient Category	---NTP Carcinogen---		IARC
	Known	Anticipated	
Vanadic Acid, Ammonium Salt None (7803-55-6)	No	No	

12. Ecological Information

Environmental Fate:
No information found.

Environmental Toxicity:
No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: AMMONIUM METAVANADATE

Hazard Class: 6.1

UN/NA: UN2859

Packing Group: II

Information reported for product/size: 500G

International (Water, I.M.O.)

Proper Shipping Name: AMMONIUM METAVANADATE

Hazard Class: 6.1

UN/NA: UN2859

Packing Group: II

Information reported for product/size: 500G

International (Air, I.C.A.O.)

Proper Shipping Name: AMMONIUM METAVANADATE

Hazard Class: 6.1

UN/NA: UN2859

Packing Group: II

Information reported for product/size: 500G

15. Regulatory Information

-----\Chemical Inventory Status - Part 1\-----

Ingredient TSCA EC Japan
Australia

Vanadic Acid, Ammonium Salt (7803-55-6) Yes Yes Yes
Yes

-----\Chemical Inventory Status - Part 2\-----

Ingredient Korea --Canada--
Phil. DSL NDSL

Vanadic Acid, Ammonium Salt (7803-55-6) Yes Yes No
Yes

-----\Federal, State & International Regulations - Part 1\-----

313----- -SARA 302- -----SARA
Ingredient RQ TPQ List
Chemical Catg.

Vanadic Acid, Ammonium Salt (7803-55-6) No No No
No

-----\Federal, State & International Regulations - Part 2\-----			
		-RCRA-	-
TSCA-	Ingredient	CERCLA	261.33 8 (d)
-----		-----	-----
-	Vanadic Acid, Ammonium Salt (7803-55-6)	1000	P119 No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
 SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No
 Reactivity: No (Pure / Solid)

Australian Hazchem Code: 1Z
Poison Schedule: None allocated.
WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 3 Flammability: 0 Reactivity: 0

Label Hazard Warning:

POISON! DANGER! MAY BE FATAL IF SWALLOWED OR INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

Label Precautions:

- Do not get in eyes, on skin, or on clothing.
- Do not breathe dust.
- Keep container closed.
- Use only with adequate ventilation.
- Wash thoroughly after handling.

Label First Aid:

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. In all cases get medical attention immediately.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 3.

Disclaimer:

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