

SAFETY DATA SHEET

1. Identification

Product identifier: Ammonium meta-Vanadate

Other means of identification

Product No.: 0715

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax:
Contact Person: Environmental Health & Safety
e-mail: info@avantormaterials.com

Emergency telephone number:

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard classification

Health hazards

Acute toxicity (Oral)	Category 3
Acute toxicity (Inhalation - dust and mist)	Category 1
Serious eye damage/eye irritation	Category 2A
Toxic to reproduction	Category 2
Specific target organ toxicity - repeated exposure	Category 1

Label elements

Hazard symbol:



Signal word: Danger

Hazard statement: Fatal if inhaled.
Toxic if swallowed.
Causes serious eye irritation.
Causes damage to organs through prolonged or repeated exposure.
Suspected of damaging fertility or the unborn child.

Precautionary statement

- Prevention:** Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Wear respiratory protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
- Response:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER/doctor. IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth. Call a POISON CENTER/doctor if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention. If eye irritation persists: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention.
- Storage:** Store locked up. Store in a well-ventilated place. Keep container tightly closed.
- Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Substances

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
VANADIC ACID, AMMONIUM SALT		7803-55-6	98 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

- General information:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
- Ingestion:** Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
- Inhalation:** Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration.
- Skin contact:** Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
- Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention immediately.

Most important symptoms/effects, acute and delayed

Symptoms: Fatal if swallowed. Causes severe skin and eye burns.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General fire hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures: Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

Environmental precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Do not breathe dust. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Conditions for safe storage, including any incompatibilities: Do not store in metal containers. Keep in a cool, well-ventilated place. Store in a dry place.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None of the components have assigned exposure limits.

Appropriate engineering controls

No data available.

Individual protection measures, such as personal protective equipment

General information:

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

Eye/face protection:

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection:

Chemical resistant gloves

Other:

Wear suitable protective clothing.

Respiratory protection:

In case of inadequate ventilation use suitable respirator.

Hygiene measures:

Provide eyewash station and safety shower. Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not eat, drink or smoke when using the product. Wash contaminated clothing before reuse.

9. Physical and chemical properties

Appearance

Physical state:

Solid

Form:

Crystalline Powder.

Color:

White

Odor:

Odorless

Odor threshold:

No data available.

pH:

No data available.

Melting point/freezing point:

200 °C

Initial boiling point and boiling range:

No data available.

Flash Point:

No data available.

Evaporation rate:

No data available.

Flammability (solid, gas):

No data available.

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%):

No data available.

Flammability limit - lower (%):

No data available.

Explosive limit - upper (%):

No data available.

Explosive limit - lower (%):

No data available.

Vapor pressure:

No data available.

Vapor density:	No data available.
Relative density:	2.33 (20 °C)
Solubility(ies)	
Solubility in water:	Slightly Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

Other information

Molecular weight:	116.98 g/mol (H4N.O3V)
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10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Contact with incompatible materials.
Incompatible materials:	None known.
Hazardous decomposition products:	By heating and fire, toxic vapors/gases may be formed.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	Toxic if swallowed.
Inhalation:	Fatal if inhaled.
Skin contact:	May be harmful in contact with skin.
Eye contact:	Causes serious eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral	
Product:	LD 50 (Rat): 58.1 mg/kg
Dermal	
Product:	LD 50 (Rat): 2,102 mg/kg
Inhalation	
Product:	LC 50 (Rat, 4 h): 0.0078 mg/l
Repeated dose toxicity	
Product:	No data available.

Skin corrosion/irritation

Product:	May cause skin irritation.
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Serious eye damage/eye irritation

Product: Causes serious eye irritation.

Respiratory or skin sensitization

Product: Not a skin sensitizer.

Carcinogenicity

Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ cell mutagenicity

In vitro

Product: No mutagenic components identified

In vivo

Product: No mutagenic components identified

Reproductive toxicity

Product: No components toxic to reproduction

Specific target organ toxicity - single exposure

Product: None known.

Specific target organ toxicity - repeated exposure

Product: Respiratory tract irritation. - Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

Product: Not classified

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

VANADIC ACID, LC 50 (Mummichog (Fundulus heteroclitus), 96 h): 13.5 mg/l Mortality
AMMONIUM SALT LC 50 (Channelfish (Nuria danrica), 96 h): 2.08 - 3.13 mg/l Mortality

Aquatic invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and degradability

Biodegradation

Product: There are no data on the degradability of this product.

BOD/COD ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration factor (BCF)

Product: No data available on bioaccumulation.

Partition coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in soil:

No data available.

Other adverse effects:

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13. Disposal considerations

Disposal instructions:

Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated packaging:

Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number: UN 2859
 UN proper shipping name: Ammonium metavanadate
 Transport hazard class(es)
 Class(es): 6.1
 Label(s): 6.1
 Packing group: II
 Marine Pollutant: No

IMDG

UN number: UN 2859
 UN proper shipping name: AMMONIUM METAVANADATE
 Transport hazard class(es)
 Class(es): 6.1
 Label(s): 6.1
 EmS No.: F-A, S-A
 Packing group: II
 Marine Pollutant: No

IATA

UN number: UN 2859
 Proper Shipping Name: Ammonium metavanadate
 Transport hazard class(es):
 Class(es): 6.1
 Label(s): 6.1
 Marine Pollutant: No
 Packing group: II

15. Regulatory information

US federal regulations

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
 US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

VANADIC ACID, AMMONIUM Reportable quantity: 1000 lbs.
 SALT

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories

Acute (Immediate) Chronic (Delayed) Fire Reactive Pressure Generating

SARA 302 Extremely hazardous substance

None present or none present in regulated quantities.

SARA 304 Emergency release notification

Chemical identity	RQ
VANADIC ACID, AMMONIUM SALT	1000 lbs.

SARA 311/312 Hazardous chemical

Chemical identity	Threshold Planning Quantity
VANADIC ACID, AMMONIUM SALT	500 lbs

SARA 313 (TRI reporting)

Chemical identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
VANADIC ACID, AMMONIUM SALT	10000 lbs	25000 lbs.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US state regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

VANADIC ACID, AMMONIUM SALT Listed

US. Massachusetts RTK - Substance List

VANADIC ACID, AMMONIUM SALT Listed

US. Pennsylvania RTK - Hazardous Substances

VANADIC ACID, AMMONIUM SALT Listed

US. Rhode Island RTK

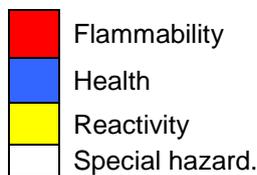
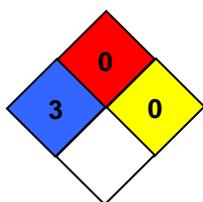
VANADIC ACID, AMMONIUM SALT Listed

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	On or in compliance with the inventory
China Inv. Existing Chemical Substances:	Not in compliance with the inventory.
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	On or in compliance with the inventory
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue date:	08-21-2014
Revision date:	No data available.
Version #:	1.0
Further information:	No data available.

Disclaimer:

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