

SAFETY DATA SHEET

Preparation Date: 9/8/2016

Revision date 4/10/2019

Revision Number: G2

1. IDENTIFICATION

Product identifier

Product code: A1208
Product Name: AMMONIUM METAVANADATE, POWDER, REAGENT, ACS

Other means of identification

Synonyms: Ammonium trioxovanadate
 Ammonium monovanadate
 Ammonium vanadium trioxide
CAS #: 7803-55-6
RTECS # YW0875000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Dyeing wool. Inks. Analytical reagent. Paint drier.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Tom Tyner (USA - West Coast)
Contact Person: Ibad Tirmiz (USA - East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 1
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3

Label elements

Danger

Hazard statements
 Toxic if swallowed

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Fatal if inhaled
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

May be harmful in contact with skin

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear respiratory protection
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight-%
Ammonium Metavanadate	7803-55-6	100

4. FIRST AID MEASURES

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First aid measures

- General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
- Skin Contact:** Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.
- Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention.
- Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Immediate medical attention is required.

Most important symptoms and effects, both acute and delayed

- Symptoms**
- Causes skin irritation
 - Causes serious eye irritation
 - Irritating to respiratory system
 - Causes digestive (gastrointestinal) tract irritation
 - May cause abdominal pain, nausea, vomiting, diarrhea
 - May cause metallic taste
 - May cause green tongue
 - May cause greenish discoloration of the skin
 - It may affect the blood
 - May affect the bone marrow
 - May affect the cardiovascular system
 - May cause pulmonary edema
 - May cause emphysema
 - May cause bronchitis
 - Dyspnea (Shortness of breath and difficulty breathing)
 - Coughing
 - It may affect the kidneys
 - Central nervous system effects
 - Convulsions
 - Headache
 - Tremors
 - Dizziness
 - Somnolence

Indication of any immediate medical attention and special treatment needed

- Notes to Physician:** Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

- Suitable Extinguishing Media:** The product is not flammable. If it is involved in a fire,

extinguish the fire using an agent suitable for the type of surrounding fire.

Unsuitable Extinguishing Media:

No information available.

Specific hazards arising from the chemical

Hazardous combustion products

If it is involved in a fire the following can be released: Ammonia. Nitrogen oxides (NOx). Vanadium oxide.

Specific hazards

Fire may produce irritating and/or toxic gases.

Special Protective Actions for Firefighters

Specific Methods:

No information available

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Evacuate personnel to safe areas. Avoid breathing dust. Avoid dust formation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up

Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Do not ingest. Do not breathe dust. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store away from incompatible materials. Store at

room temperature in the original container. Store in a segregated and approved area.

Incompatible Materials:

Oxidizing agents
Acids

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Ammonium Metavanadate	7803-55-6	None	None	None	None

Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Ammonium Metavanadate	7803-55-6	None	None	None	None

Australia and Mexico

Component	CAS No	Australia	Mexico
Ammonium Metavanadate	7803-55-6	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

- Eye protection:** Safety glasses with side-shields. or Goggles
- Skin and body protection:** Long sleeved clothing
Chemical resistant apron
Gloves
- Respiratory protection:** Wear respirator with dust filter. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid	Appearance: Powder.	Color: White.
Odor: No information available.	Taste No information available.	Formula NH4VO3
Molecular/Formula weight (g/mole): 116.98	Flammability (solid, gas) Non-flammable	Flashpoint (°C/°F): No information available
Flash Point Tested according to: Not available	Autoignition Temperature (°C/°F): No information available	Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available	Melting point/range(°C/°F): No information available	Decomposition temperature(°C/°F): 200°C/ 392°F
Boiling point/range(°C/°F): No information available	Bulk density: No information available	Density (g/cm3): No information available
Specific gravity: 2.326	pH No information available	Vapor pressure @ 20°C (kPa): No information available
Evaporation rate: No information available	Vapor density: 1.3	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): -4.37	Viscosity: No information available
Miscibility: No information available	Solubility: Insoluble in Alcohol Insoluble in Ether Very slightly soluble in cold water Partially soluble in hot water Readily soluble in mono and diethanolamine Insoluble in saturated ammonium chloride solution Solubility in Water: 0.52 g/l @ 15 deg. C; 6.95 g/l @ 96 deg.	

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents and strong acids

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Incompatible materials. Avoid dust formation.

Incompatible Materials: Oxidizing agents
Acids

Hazardous decomposition products: Ammonia. Vanadium oxide. Nitrogen oxides (NOx).

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Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Skin. Eyes. Inhalation. Ingestion.

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document
Component Information

Ammonium Metavanadate	
CAS No	7803-55-6

LD50/oral/rat = 58100 µg/kg Oral LD50 Rat
LD50/oral/mouse = 25 mg/kg
LD50/dermal/rabbit = No information available
LD50/dermal/rat = 2102 mg/kg Dermal LD50
LC50/inhalation/rat = 7800 µg/m³ Inhalation LC50 Rat 4 h
LC50/inhalation/mouse = No information available
Other LD50 or LC50 information = No information available

Product Information

LD50/oral/rat =
Value - Acute Tox = 58.1 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = 25 mg/kg

LD50/dermal/rabbit
Value - Acute Tox = No information available

LD50/dermal/rat
VALUE - Acute Tox Dermal = 2102 mg/kg

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = 0.0078 mg/l (rat, 4 hr)

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Causes skin irritation. May cause a greenish discoloration of the skin. May be absorbed through the skin.

Eye Contact: Causes serious eye irritation. May cause conjunctivitis.

Inhalation Fatal if inhaled. Irritating to respiratory system. Inhalation of vanadium or vanadium compounds may cause sore throat, dry mouth, rhinitis, epistaxis, green tongue, metallic taste, pharyngitis, diffuse pulmonary fibrosis, bronchitis, tracheitis. Symptoms may include coughing and shortness of breath. May cause dyspnea (difficulty breathing or shortness of breath). It may cause pulmonary edema.

Ingestion Toxic if swallowed. Causes digestive (gastrointestinal) tract irritation. May cause abdominal pain, nausea, vomiting, hypermotility and diarrhea. May affect behavior/central nervous system (somnolence, tremor). May affect behavior/central nervous system (dizziness, headache). May affect behavior/central nervous system (convulsions/seizures). May affect behavior/central nervous system (coma). May affect urinary system (kidneys). May affect the blood (anemia). May affect the blood (thrombocytopenia). It may affect the bone marrow (bone marrow depression).

Ingestion: Vanadium compounds can cause neutropenia, basophilic granulation of leukocytes, polycythemia, followed by red blood cell destruction, anemia, loss of appetite, pallor, emaciation and may affect the cardiovascular system (arrhythmias, bradycardia), lungs (vasospasm/vasoconstriction of the lungs), spleen, kidneys, and intestines. May also cause a greenish-black tongue discoloration due to deposition of vanadium salts.

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Contact with exposed skin may produce scattered allergy-like eczematous skin lesion which is a symptom of Vanadium toxicity. Inhalation: Prolonged or repeated exposure may cause chronic bronchitis, cough, emphysema, pulmonary edema, green tongue, metallic taste. It may also cause asthma. Ingestion: Prolonged or repeated exposure may cause a greenish tongue, metallic taste. It may also affect the liver, blood (changes in red blood cell count, pigmented or nucleated red blood cells), urinary system/kidneys (acute tubular necrosis).

Sensitization: No information available.

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Ammonium Metavanadate	7803-55-6	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure respiratory system.
STOT - repeated exposure No information available.
Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Ammonium Metavanadate - 7803-55-6
Fish 1.5 mg/L LC50 Poecilia reticulata 144 h 1

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility in soil No information available
Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ammonium Metavanadate	7803-55-6	None	None	P119	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN2859
Proper Shipping Name: Ammonium metavanadate
Hazard Class 6.1
Subsidiary Class No information available
Packing group: II
Emergency Response Guide Number 154
Marine Pollutant Severe Marine Pollutant

DOT RQ (lbs): No information available
Special Provisions IB8, IP2, IP4, T3, TP33
Symbol(s): No information available
Description: UN2859, Ammonium metavanadate, 6.1, II

TDG (Canada)

UN-No: UN2859
Proper Shipping Name: Ammonium metavanadate
Hazard Class 6.1
Subsidiary Risk: No information available
Packing Group: II
Marine Pollutant No Information available
Description: UN2859, Ammonium metavanadate, 6.1, II

ADR

UN Number UN2859
Proper Shipping Name: Ammonium metavanadate
Transport hazard class(es) 6.1
Packing group II
Subsidiary Risk: No information available
Description: UN2859, Ammonium metavanadate, 6.1, II

IMDG

UN-No: UN2859
Proper Shipping Name: Ammonium metavanadate
Hazard Class: 6.1
Subsidiary Risk: No information available
Packing Group: II
Marine Pollutant No information available
EMS: F-A
Description UN2859, Ammonium metavanadate, 6.1, II

RID

UN Number UN2859
Proper Shipping Name: Ammonium metavanadate
Transport hazard class(es) 6.1
Subsidiary Risk: No information available
Packing group II
Description: UN2859, Ammonium metavanadate, 6.1, II

ICAO (air)

UN-No: UN2859
Proper Shipping Name: Ammonium metavanadate
Hazard Class 6.1
Subsidiary Risk: No information available
Packing Group: II
Description: UN2859, Ammonium metavanadate, 6.1, II

IATA

UN Number UN2859
Proper Shipping Name: Ammonium metavanadate
Transport hazard class(es) 6.1
Subsidiary Risk: No information available
Packing group II
Precautionary Statements - Response 6L
Special Provisions No information available

Description: UN2859, Ammonium metavanadate, 6.1, II

15. REGULATORY INFORMATION

International Inventories

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
Ammonium Metavanadate	7803-55-6	PresentACTIVE	Present KE-01756	Present	Present (1)-407	Present	Present	Present 232-261-3

U.S. Regulations

Ammonium Metavanadate

- Massachusetts RTK:** Present
- New Jersey RTK Hazardous Substance List:** sn 0104
- New Jersey - Discharge Prevention - List of Hazardous Substances:** Present
- Pennsylvania RTK:** Environmental hazard
- Pennsylvania RTK - Environmental Hazard List** Present
- New York Release Reporting - List of Hazardous Substances:**
1000 lb RQ
100 lb RQ
- Louisiana Reportable Quantity List for Pollutants:** Listed

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Ammonium Metavanadate	7803-55-6	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Ammonium Metavanadate	7803-55-6	1000 lb final RQ 454 kg final RQ	None	None	Vanadium compounds	1.0 de minimis concentraion

U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Ammonium Metavanadate	7803-55-6	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

The WHMIS 2015 classification of this product has not been validated or reviewed yet.

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Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
Ammonium Metavanadate	7803-55-6	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Ammonium Metavanadate	7803-55-6	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Ammonium Metavanadate	7803-55-6	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Ammonium Metavanadate	7803-55-6	

EU - CLP (1272/2008)

R-phrase(s)

- R25 - Toxic if swallowed
- R26 - Very toxic by inhalation
- R36/37/38 - Irritating to eyes, respiratory system and skin

S -phrase(s)

- S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
- S22 - Do not breathe dust
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
- S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Ammonium Metavanadate	7803-55-6		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

- T+ - Very toxic
- T - Toxic
- Xi - Irritant



16. OTHER INFORMATION

Preparation Date: 9/8/2016
Revision date 4/10/2019
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet