

**Ammonium Metavanadate**

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**1. PRODUCT AND COMPANY IDENTIFICATION**

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**Product Name:** Ammonium Metavanadate

**Synonyms/Generic Names:** Vanadic Acid, Ammonium Salt, Ammonium trioxovanadate

**SDS Number:** 51.00

**Product Use:** For Educational Use Only

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information Contact:** Ward's Science  
5100 West Henrietta Rd.  
PO Box 92912-9012  
Rochester, NY 14692  
(800) 962-2660 (Monday-Friday 7:30-7:00 Eastern Time)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

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**2. HAZARDS IDENTIFICATION**

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**OSHA Hazards:** Target organ effect, Highly toxic by inhalation, Toxic by ingestion, Irritant

**Target Organs:** Blood, nervous system, upper respiratory tract.

**Signal Words:** Danger

**Pictograms:**



**GHS Classification:**

Acute toxicity, Oral	Category 3
Acute toxicity, Inhalation	Category 1
Acute toxicity, Dermal	Category 5
Skin irritation	Category 2
Eye irritation	Category 2A
Specific target organ toxicity– single exposure	Category 3

## GHS Label Elements, including precautionary statements:

### Hazard Statements:

H301	Toxic if swallowed.
H313	May be harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.

### Precautionary Statements:

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P284	Wear respiratory protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.

### Potential Health Effects

<b>Eyes</b>	Causes eye irritation.
<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Ingestion</b>	May be harmful if swallowed.

### NFPA Ratings

<b>Health</b>	3
<b>Flammability</b>	0
<b>Reactivity</b>	0
<b>Specific hazard</b>	Not Available

### HMIS Ratings

<b>Health</b>	3
<b>Fire</b>	0
<b>Reactivity</b>	0
<b>Personal</b>	E

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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

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Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Ammonium Metavanadate	>99	7803-55-6	232-261-3	H <sub>4</sub> NO <sub>3</sub> V	116.98 g/mol

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## 4. FIRST-AID MEASURES

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<b>Eyes</b>	Immediately rinse with plenty of water for at least 15 minutes and seek medical attention immediately.
<b>Inhalation</b>	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.
<b>Skin</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

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## 5. FIRE-FIGHTING MEASURES

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<b>Suitable (and unsuitable) extinguishing media</b>	Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.

<b>Specific hazards arising from the chemical</b>	Emits toxic fumes (ammonia, nitrogen oxides, and vanadium oxides) under fire conditions. (See also Stability and Reactivity section)
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## 6. ACCIDENTAL RELEASE MEASURES

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<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
<b>Methods and materials for containment and cleaning up</b>	Pick up and arrange disposal without creating dust. Sweep up and place spill in suitable, closed containers for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

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## 7. HANDLING AND STORAGE

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### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

### Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Moisture sensitive. Keep away from incompatible materials (see section 10 for incompatibilities).

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Ammonium Metavanadate	0.05 mg/m <sup>3</sup>	REL	NIOSH

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

### Personal Protection

<b>Eyes</b>	Wear chemical safety glasses or goggles.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear nitrile or rubber gloves, apron or lab coat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	White to yellowish powder
Odor	Not Available
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	Not Available
Initial boiling point and boiling range	Not Available
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	2.32 g/cm <sup>3</sup>
Solubility (ies)	Not Available
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Moisture, excess light,
<b>Incompatible Materials</b>	Strong acids, oxidizing agents
<b>Hazardous Decomposition Products</b>	Ammonia, nitrogen oxides, vanadium oxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

<b>Skin</b>	LD50 Dermal – rat – 2102 mg/kg
<b>Eyes</b>	Not Available
<b>Respiratory</b>	LC50 Inhalation – rat – 4hr – 7.8 µg/L
<b>Ingestion</b>	LD50 Oral – rat – 58.1 mg/kg
<b>Other</b>	LD50 Intraperitoneal - rat - 18 mg/kg LD50 Subcutaneous - rat - 23 mg/kg

### Carcinogenicity

<b>IARC</b>	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>ACGIH</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>NTP</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>OSHA</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Signs & Symptoms of Exposure

<b>Skin</b>	Green discoloration of skin, irritation, itching.
<b>Eyes</b>	Irritation.
<b>Respiratory</b>	Sore throat, coughing, labored breathing,
<b>Ingestion</b>	Nausea, vomiting, abdominal cramping, hypermotility, metallic taste, green tongue.

<b>Chronic Toxicity</b>	Damage to target organs.
<b>Teratogenicity</b>	Fetal death and birth defects. - Developmental Toxicity - Hamster - Intraplacental Specific Developmental Abnormalities: Musculoskeletal system
<b>Mutagenicity</b>	Mutagenic for somatic cells. - Genotoxicity in vitro - Human - lymphocyte Micronucleus test -Genotoxicity in vitro - Human - lymphocyte DNA damage -Genotoxicity in vitro - Human - lymphocyte Sister chromatid exchange
<b>Embryotoxicity</b>	Post-implantation mortality.
<b>Specific Target Organ Toxicity</b>	Inhalation - May cause respiratory irritation.
<b>Reproductive Toxicity</b>	Reproductive effects. -Reproductive toxicity - Hamster - Intraperitoneal -Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetal death.
<b>Respiratory/Skin Sensitization</b>	Not Available

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## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

<b>Aquatic Vertebrate</b>	Not Available
<b>Aquatic Invertebrate</b>	Not Available
<b>Terrestrial</b>	Not Available

<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulative Potential</b>	Not Available
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	Not Available
<b>Other Adverse Effects</b>	Not Available

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## 13. DISPOSAL CONSIDERATIONS

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<b>Waste Residues</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste products or residues.
<b>Product Containers</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

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## 14. TRANSPORTATION INFORMATION

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US DOT	UN2859, Ammonium metavanadate, 6.1, pg II
TDG	UN2859, AMMONIUM METAVANADATE, 6.1, pg II
IMDG	UN2859, AMMONIUM METAVANADATE, 6.1, pg II
Marine Pollutant	No
IATA/ICAO	UN2859, Ammonium metavanadate, 6.1, pg II

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## 15. REGULATORY INFORMATION

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TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Acute Health Hazard, Chronic Health Hazard
SARA 312	Acute Health Hazard, Chronic Health Hazard
SARA 313	Listed: Ammonium Metavanadate
WHMIS Canada	Class D-1A: Poisonous and infectious material- Immediate and serious effects- Very toxic Class D-2B: Poisonous and infectious material- Immediate and serious effects- Toxic

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## 16. OTHER INFORMATION

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Revision	Date
Revision 1	06/11/2012
Revision 2	06/20/2013

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