



**Safety Data Sheet**  
According to 29 CFR 1910.1200 (OSHA HCS)

SDS No. 107

Review date April 18, 2018

**1 Identification of substance and company**

**Product details**

**Product name:** **Ammonium metavanadate**  
**Product code:** 13225, 14765, C2084  
**Relevant identified uses of the substance:** Research and product development  
**Manufacturer/Supplier:** Noah Technologies Corporation  
1 Noah Park  
San Antonio, Texas 78249-3419  
Phone: (210) 691-2000  
Web site: www.noahtech.com

**Emergency information:** CHEMTREC  
800-424-9300

**2 Hazards identification**

**Signal Word:**

Danger

**Pictogram(s):**



**Hazard statements:**

H301 Toxic if swallowed  
H319 Causes serious eye irritation  
H332 Harmful if inhaled  
H335 May cause respiratory irritation  
H372 Causes damage to organs through prolonged or repeated exposure if swallowed  
H402 Harmful to aquatic life

**Precautionary statements:**

H411 Toxic to aquatic life with long lasting effects  
P260 Do not breath dust/ fume/ gas/ mist/ vapors/ spray  
P264 Wash thoroughly after handling  
P270 Do not eat, drink or smoke when using this product  
P271 Use only outdoors or in a well-ventilated area  
P273 Avoid release to the environment  
P280 Wear eye protection/ face protection  
P301+310+330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.  
P304+340+312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.  
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P314 Get medical advice/ attention if you feel unwell  
P337+313 If eye irritation persists: Get medical advice/ attention  
P391 Collect spillage  
P403+233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up  
P501 Dispose of contents/ container to an approved waste disposal plant

**GHS Classification:**

Acute toxicity, oral - 3  
Acute toxicity, inhalation - 4  
Eye irritation - 2A  
Specific target organ toxicity - single exposure - 3, respiratory system  
Specific target organ toxicity - repeated exposure - 1, oral  
Acute aquatic toxicity - 3  
Chronic aquatic toxicity - 2

**HMIS ratings (scale 0-4):**

Health	2
Flammability	0
Physical hazard	0

**3 Composition/Information on ingredients**

**Chemical name:** Ammonium metavanadate  
**Designation: (CAS#):** 7803-55-6  
**Formula:** NH<sub>4</sub>VO<sub>3</sub>

**Synonyms:** Ammonium trioxovanadate  
**EC Number:** 232-261-3

#### 4 First aid measures

**After inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.  
Seek immediate medical advice

**After skin contact:** Instantly wash with water and soap and rinse thoroughly  
Seek immediate medical advice

**After eye contact:** Rinse opened eye for at least 15 minutes under running water. Assure adequate flushing by separating the eyelids with fingers.  
Seek immediate medical advice

**After swallowing:** Seek immediate medical treatment

**Information for doctor:**

**The following symptoms may occur:** Irritation of the respiratory tract, chest tightness, wheezing, bloody nose, and coughing  
Ingestion may cause abdominal discomfort, nausea, vomiting, cramping, and harmless greenish tongue discoloration

#### 5 Fire-fighting measures

**Suitable extinguishing agents:** Use extinguishing media most suitable to surrounding fire conditions  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

**Special hazards caused by the material, its products of combustion or resulting gases:** In case of fire, the following can be released:  
Oxides of vanadium and nitrogen (NOx)

**Protective equipment:** Wear self-contained breathing apparatus  
Wear fully protective fire fighting equipment/clothing in fire situations

#### 6 Accidental release measures

**Person-related safety precautions:** Wear personal protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation

**Measures for environmental protection:** Do not allow material to be released to the environment without proper governmental permits

**Measures for cleaning/collecting:** Dispose of contaminated material as waste according to item 13  
Ventilate and wash spill site after material removal is complete

**Additional information:** See Section 7 for information on safe handling  
See Section 8 for information on personal protective equipment  
See Section 13 for information on disposal

#### 7 Handling and storage

**Information for safe handling:** Avoid heating above 80 °C  
Keep containers tightly sealed  
Store in cool, dry place in tightly closed containers  
Ensure good ventilation/exhaust at the workplace

**Information about protection against explosions and fires:** This material is not flammable

**Storage requirements to be met by storerooms and containers:** No special requirements

**Information about storage in one common storage facility:** Store away from air / water / moisture  
Do not store together with acids, bases or oxidizing agents

**Further information about storage conditions:** Keep container tightly sealed  
Store in cool, dry conditions in well sealed containers

#### 8 Exposure controls/personal protection

**Additional information about design of technical systems:** Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute

**Components with critical values that require monitoring at the workplace:** No specific PEL for ammonium metavanadate. Exposure data applies as noted.  
mg/m<sup>3</sup>  
ACGIH TLV: TWA 0.05 mg/m<sup>3</sup> for V<sub>2</sub>O<sub>5</sub> inhalable particulate matter, measured as vanadium  
NIOSH REL: CL 0.05 mg V/m<sup>3</sup> for vanadium compounds, 15 minutes

**Additional information:** No data

**Personal protective equipment**

**General protective and hygienic measures:** The usual precautionary measures should be adhered to in handling the chemicals  
Keep away from foodstuffs, beverages and food  
Instantly remove any soiled and impregnated garments  
Wash hands during breaks and at the end of the work  
Avoid contact with the eyes and skin

**Respiratory protection:** Use suitable respirator when high concentrations are present  
Use only NIOSH/MESA or CEN approved dust mask type N95 or TYPE P1 (EN 143)

**Hand protection:** Impervious gloves

**Eye protection:** Safety glasses

**Skin protection:** Chemical safety goggles  
Protective work clothing

**Additional protective equipment:** Sufficient to prevent contact  
Emergency eyewash and safety shower

## 9 Physical and chemical properties

**General Information:**

**Physical state:** Powder or granules

**Color:** Ivory to yellow-brown

**Smell:** Odorless

**Molecular Weight (Calculated):** 116.98

**pH (5% solution)** No data available

**Melting point/range:** Decomposes at 150 °C. Decomposition becomes rapid at 200 °C.

**Boiling point/range:** No data available

**Sublimation temperature/start:** No data available

**Flash point:** Non-flammable

**Autoignition temperature:** No data available

**Decomposition temperature:** No data available

**Danger of explosion:** Product does not present an explosion hazard

**Flammable limits:** Non-flammable

**Lower:** No data available

**Upper:** No data available

**Vapor pressure (mm Hg):** No data available

**Specific gravity:** 2.326

**Solubility in/Miscibility with water** 5.2 g/L @ 15 °C  
69.5 g/L @ 96 °C (decomposes)

## 10 Stability and reactivity

**Conditions to be avoided:** No decomposition if used and stored according to specifications  
See section 7 for information on proper handling and storage

**Materials to be avoided:** Bases  
Aluminum  
Oxidizing agents

**Dangerous reactions:** Releases ammonia when exposed to alkaline solutions

**Hazardous decomposition products:** Oxides of vanadium and nitrogen (NOx)

## 11 Toxicological information

**Acute toxicity:**

**LD/LC50 values that are relevant for classification:** oral-rat LD<sub>50</sub>: 169.33 mg/kg  
inhalation-rat LC<sub>50</sub>: 7.8 mg/m<sup>3</sup> for 4 hours  
dermal-rat LD<sub>50</sub>: 2,102 mg/kg  
intraperitoneal-rat LD<sub>50</sub>: 18 mg/kg  
subcutaneous-rat LD<sub>50</sub>: 23 mg/kg  
Poison by ingestion, inhalation, intraperitoneal, subcutaneous, intratracheal, and intravenous routes  
Absorption by inhalation is nearly 100%

**Primary irritant effect:**

**on the skin:** Causes skin irritation

**on the eye:** Causes serious eye irritation

**Sensitization:** May cause asthmatic reaction or allergic skin reaction in susceptible individuals

**Additional toxicological information:** 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.  
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known

**Carcinogenicity:** No classification data on carcinogenic properties of this material is available from the IARC, NTP, or OSHA  
U.S. EPA Genetic Toxicity: Reported, Genetic Toxicology Program

## 12 Ecological information

**Aquatic toxicity:** No further relevant information available

**Persistence and degradability:** Does not readily deteriorate in the environment

**Behavior in environmental systems:**

**Bioaccumulative potential:** No further relevant information available

**Mobility in soil:** No further relevant information available

**Additional ecological information:**

**General notes:** Do not allow product or large quantities of it to reach ground water, water course or sewage system  
Danger to drinking water if even small quantities leak into the ground  
Do not allow material to be released to the environment without proper governmental permits

## 13 Disposal considerations

**Recommendation:** Consult state, local or national regulation for proper disposal  
Allow professional disposal company to handle waste  
Must be specially treated under adherence to official regulations

**Unclean packaging Recommendation:** Disposal must be made according to official regulations

## 14 Transport information

### Land transport DOT



**Proper shipping name:** Ammonium metavanadate  
**DOT Hazard Class:** 6.1  
**UN Identification number:** UN2859  
**Labels:** Toxic  
**Packing group:** II  
**Reportable quantity (RQ):** 454 kg  
**North American Emergency Response Guidebook No.:** 154

### Air transport ICAO-TI and IATA-DGR:



**Proper shipping name:** Ammonium metavanadate  
**DOT Hazard Class:** 6.1  
**UN Identification number:** UN2859  
**Labels:** Toxic  
**Packaging group:** II  
**Reportable quantity (RQ):** 454 kg  
**North American Emergency Response Guidebook No.** 154

### UPS Ground / FedEx Ground



**Proper shipping name:** Ammonium metavanadate  
**DOT Hazard Class:** 6.1  
**UN Identification number:** UN2859  
**Labels:** DOT-SP-8249  
**Packaging group:** II  
**Reportable quantity (RQ):** 454 kg  
**North American Emergency Response Guidebook No.** 154

### UPS Air



**Proper shipping name:** Ammonium metavanadate  
**DOT Hazard Class:** 6.1  
**UN Identification number:** UN2859  
**Labels:** DOT-SP-8249  
**Packaging group:** II  
**Reportable quantity (RQ):** 454 kg  
**North American Emergency Response Guidebook No.** 154

## 15 Regulatory information

**National regulations:** All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory  
This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372  
All components of this product are listed on the Canadian Domestic Substances List (DSL)

**Information about limitation of use:**

Employment restrictions concerning young persons must be observed  
For use only by technically qualified individuals

**16 Other information**

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.