

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** AMMONIUM HYDROXIDE

**Other means of identification**

**Product No.:** 9380, 5800, 0889, 9718, 4807, 3261, 3258, 3256, V222, V188, 6665, H893, 5980, 5820, 5817, 9741, 9733, 9731, 9721, 5604, 5358, 37826

**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**

**Physical Hazards**

Corrosive to metals Category 1

**Health Hazards**

Acute toxicity (Oral) Category 4

Skin Corrosion/Irritation Category 1

Serious Eye Damage/Eye Irritation Category 1

Specific Target Organ Toxicity -  
Single Exposure Category 3

**Environmental Hazards**

Acute hazards to the aquatic  
environment Category 1

**Label Elements**

**Hazard Symbol:**



**Signal Word:** Danger

<b>Hazard Statement:</b>	May be corrosive to metals. Harmful if swallowed. Causes severe skin burns and eye damage. May cause respiratory irritation. Very toxic to aquatic life.
<b>Precautionary Statement</b>	
<b>Prevention:</b>	Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Avoid release to the environment.
<b>Response:</b>	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Specific treatment (see this label). Collect spillage.
<b>Storage:</b>	Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store in corrosive resistant container with a resistant inner liner.
<b>Disposal:</b>	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.
<b>Other hazards which do not result in GHS classification:</b>	None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical Identity	Common name and synonyms	CAS number	Content in percent (%)*
AMMONIUM HYDROXIDE		1336-21-6	18 - 72%

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

### 4. First-aid measures

<b>General information:</b>	Get medical advice/attention if you feel unwell. If medical advice is needed, have product container or label at hand.
<b>Ingestion:</b>	Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.
<b>Inhalation:</b>	Move to fresh air. Call a physician or poison control center immediately. Apply artificial respiration if victim is not breathing. If breathing is difficult, give oxygen.
<b>Skin Contact:</b>	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. Call a physician or poison control center immediately.

**Most important symptoms/effects, acute and delayed**

**Symptoms:** Corrosive to skin and eyes.

**Indication of immediate medical attention and special treatment needed**

**Treatment:** Treat symptomatically. Symptoms may be delayed.

**5. Fire-fighting measures**

**General Fire Hazards:** In case of fire and/or explosion do not breathe fumes.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:** Water spray, fog, CO2, dry chemical, or regular foam.

**Unsuitable extinguishing media:** None known.

**Specific hazards arising from the chemical:** Fire may produce irritating, corrosive and/or toxic gases.

**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. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. See Section 8 of the SDS for Personal Protective Equipment.

**Methods and material for containment and cleaning up:** Neutralize with lime or soda ash. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

**Notification Procedures:** Inform authorities if large amounts are involved.

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

**7. Handling and storage**

**Precautions for safe handling:** Do not breathe mist or vapor. Do not get in eyes, on skin, on clothing. Do not taste or swallow. Use only with adequate ventilation. Wash hands thoroughly after handling. See Section 8 of the SDS for Personal Protective Equipment.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed. Store in a well-ventilated place. Do not store in metal containers.

**8. Exposure controls/personal protection**

**Control Parameters**

**Occupational Exposure Limits**

Chemical Identity	Type	Exposure Limit Values	Source
AMMONIUM HYDROXIDE	STEL	35 ppm	US. ACGIH Threshold Limit Values (2011)
	TWA	25 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	35 ppm 27 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	25 ppm 18 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	50 ppm 35 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	35 ppm 27 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

**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. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

**9. Physical and chemical properties**

**Appearance**

**Physical state:** Liquid  
**Form:** Liquid  
**Color:** Colorless

<b>Odor:</b>	Ammonia odor
<b>Odor threshold:</b>	No data available.
<b>pH:</b>	13.8
<b>Melting point/freezing point:</b>	-74.4 °C
<b>Initial boiling point and boiling range:</b>	27 °C
<b>Flash Point:</b>	Not applicable
<b>Evaporation rate:</b>	No data available.
<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	No data available.
<b>Flammability limit - lower (%):</b>	No data available.
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	288 kPa
<b>Vapor density:</b>	No data available.
<b>Relative density:</b>	0.90 (20 °C)
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	Completely Soluble
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Auto-ignition temperature:</b>	No data available.
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.

## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical Stability:</b>	Material is stable under normal conditions.
<b>Possibility of Hazardous Reactions:</b>	Hazardous polymerization does not occur.
<b>Conditions to Avoid:</b>	Excessive heat.
<b>Incompatible Materials:</b>	Strong oxidizing agents. Acids. Metals. Halogens. Water. Nitromethane.
<b>Hazardous Decomposition Products:</b>	Nitrogen Oxides ammonia

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion:</b>	Harmful if swallowed. May cause burns of the gastrointestinal tract if swallowed.
<b>Inhalation:</b>	Severely irritating to respiratory system.
<b>Skin Contact:</b>	Causes severe skin burns.
<b>Eye contact:</b>	Causes serious eye damage.

## Information on toxicological effects

### Acute toxicity (list all possible routes of exposure)

#### Oral

**Product:** LD 50 (Rat): 350 mg/kg

#### Dermal

**Product:** No data available.

#### Inhalation

**Product:** No data available.

#### Repeated Dose Toxicity

**Product:** No data available.

#### Skin Corrosion/Irritation

**Product:** Causes severe skin burns.

#### Serious Eye Damage/Eye Irritation

**Product:** Causes serious eye damage.

#### 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:** Respiratory tract irritation.

#### Specific Target Organ Toxicity - Repeated Exposure

**Product:** None known.

#### Aspiration Hazard

**Product:** Not classified

#### Other Effects:

None known.

## 12. Ecological information

### Ecotoxicity:

#### Acute hazards to the aquatic environment:

##### Fish

**Product:** LC 50 (Western mosquitofish (*Gambusia affinis*), 96 h): 15 mg/l

##### Aquatic Invertebrates

**Product:** LC 50 (Water flea (*Daphnia magna*), 48 h): 0.66 mg/l

#### 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:** Expected to be readily biodegradable.

#### 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:** The product is water soluble and may spread in water systems.

**Other Adverse Effects:** Very toxic to aquatic life.

## 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 2672
UN Proper Shipping Name:	Ammonia solutions
Transport Hazard Class(es)	
Class(es):	8
Label(s):	8
Packing Group:	III
Marine Pollutant:	No

**IMDG**

UN Number: UN 2672  
 UN Proper Shipping Name: AMMONIA SOLUTION (WITH 10-35% AMMONIA)  
 Transport Hazard Class(es):  
   Class(es): 8  
   Label(s): 8  
   EmS No.: F-A, S-B  
 Packing Group: III  
 Marine Pollutant: No

**IATA**

UN Number: UN 2672  
 Proper Shipping Name: Ammonia solution  
 Transport Hazard Class(es):  
   Class(es): 8  
   Label(s): 8  
 Marine Pollutant: No  
 Packing Group: III

**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):**  
 AMMONIUM HYDROXIDE      Reportable quantity: 1000 lbs.

**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
AMMONIUM HYDROXIDE	1000 lbs.

**SARA 311/312 Hazardous Chemical**

Chemical Identity	Threshold Planning Quantity
AMMONIUM HYDROXIDE	500 lbs

**SARA 313 (TRI Reporting)**

Chemical Identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
AMMONIUM HYDROXIDE	10000 lbs	25000 lbs.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**  
 AMMONIUM HYDROXIDE      Reportable quantity: 1000 lbs.

**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

WATER Listed  
AMMONIUM HYDROXIDE Listed

### US. Massachusetts RTK - Substance List

AMMONIUM HYDROXIDE Listed

### US. Pennsylvania RTK - Hazardous Substances

WATER Listed  
AMMONIUM HYDROXIDE Listed

### US. Rhode Island RTK

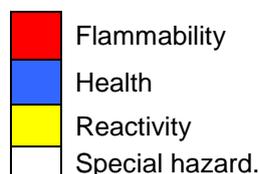
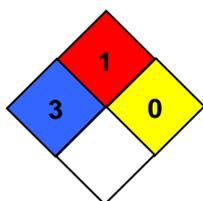
AMMONIUM HYDROXIDE Listed

## 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:	Not 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

<b>Issue Date:</b>	03-04-2015
<b>Revision Date:</b>	No data available.
<b>Version #:</b>	1.1
<b>Further Information:</b>	No data available.

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