

SAFETY DATA SHEET

Preparation Date: 10/15/2019

Revision date 10/15/2019

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: A-570
Product Name: AMMONIUM HYDROXIDE, 25 PERCENT (1+3) SOLUTION

Other means of identification

Synonyms: No information available
CAS #: Mixture
RTECS # Not available
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
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)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3

Label elements

Warning

Hazard statements
 Causes skin irritation
 Causes serious eye irritation
 May cause respiratory irritation



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves

Wear eye/face protection

Avoid breathing mist or vapors

Use only outdoors or in a well-ventilated area

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 attention.

IF ON SKIN: Wash with plenty of water

If skin irritation occurs: Get medical attention

Take off contaminated clothing and wash it before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

Precautionary Statements - Storage

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

Store locked up

Precautionary Statements - Disposal

Dispose of contents and container to an approved waste disposal plant in accordance with local, regional, national and international regulations as applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight-%
Water	7732-18-5	75
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	25

4. FIRST AID MEASURES

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.

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. If symptoms persist, call a physician.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms Causes skin irritation
Moderate skin irritation
Causes serious eye irritation
Moderate eye irritation
Causes digestive (gastrointestinal) tract irritation
Irritating to mouth, throat and stomach
Ingestion may cause vomiting and nausea
May affect the liver
It may affect the kidneys
May cause central nervous system effects

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 No information available.

Specific hazards No information available.

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. 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. 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. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Use only in area provided with appropriate exhaust ventilation. Keep away from incompatible materials.

Safe Handling Advice:

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

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep tightly closed. Keep in a well-ventilated place. Keep at temperatures below 26 °C. Store away from incompatible materials.

Incompatible Materials:

Acids

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Water	7732-18-5	None	None	None	None
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	None	None	None	None

Canada

Component	CAS No	Canada - Alberta	Canada - British	Canada - Ontario	Canada - Quebec
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			Columbia		
Water	7732-18-5	None	None	None	None
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	None	None	None	None

Australia and Mexico

Component	CAS No	Australia	Mexico
Water	7732-18-5	None	None
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid	Appearance: Clear.	Color: Colorless.
Odor: Ammonia.	Taste No information available.	Formula No information available
Molecular/Formula weight (g/mole): No information available	Flammability (solid, gas) no data available	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): No information available
Boiling point/range(°C/°F): No information available	Bulk density: No information available	Density (g/cm3): No information available

Product code: A-570

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Specific gravity:
0.97

pH
No information available

Vapor pressure @ 20°C (kPa):
No information available

Evaporation rate:
No information available

Vapor density:
No information available

VOC content (g/L):
No information available

Odor threshold (ppm):
No information available

**Partition coefficient
(n-octanol/water):**
No information available

Viscosity:
No information available

Miscibility:
No information available

Solubility:
Freely soluble in water

10. STABILITY AND REACTIVITY

Reactivity
No information available

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Incompatible materials.

Incompatible Materials: Acids

Hazardous decomposition products: No information available.

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. Ingestion. Eyes.

Acute Toxicity

Component Information

Water

CAS No 7732-18-5

LD50/oral/rat = > 90 mL/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available

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Other LD50 or LC50 information = No information available

Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	
CAS No	1336-21-6

LD50/oral/rat = 350 mg/kg Oral LD50 Rat

LD50/oral/mouse = No information available

LD50/dermal/rabbit = No information available

LD50/dermal/rat = No information available

LC50/inhalation/rat = No information available

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information = 2000 ppm 4 hours LC50 inhalation Rat (for Ammonia)

4230 ppm 1 hour LC50 inhalation Mouse (for Ammonia)

Product Information

LD50/oral/rat =

Value - Acute Toxicity = No information available

LD50/oral/mouse =

Value - Acute Tox = No information available

LD50/dermal/rabbit

Value - Acute Toxicity = No information available

LD50/dermal/rat

VALUE - Acute Tox = No information available

LC50/inhalation/rat

VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

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. Moderate skin irritation.

Eye Contact: Causes serious eye irritation. Moderately irritating to the eyes.

Inhalation Irritating to respiratory system.

Ingestion Irritating to the mouth and throat. Causes digestive (gastrointestinal) tract irritation. Ingestion may cause nausea, vomiting. May affect liver. May affect urinary system (kidneys). May affect behavior/central nervous system (ataxia). May affect behavior/central nervous system (convulsions, seizures).

Aspiration hazard No information available.

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

Chronic Toxicity Chronic exposure may affect the liver and kidneys.

Sensitization: No information available.

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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
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	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 No information available.

STOT - repeated exposure No information available.

Target Organs: No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5) - 1336-21-6

Fish 8.2 mg/L LC50 Pimephales promelas 96 h 1

Crustacea 0.66 mg/L EC50 water flea 48 h 0.66 mg/L EC50 Daphnia pulex 48 h

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
Water	7732-18-5	None	None	None	None
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class No information available
Subsidiary Class No information available
Packing group: No information available
Emergency Response Guide Number No information available
Marine Pollutant No data available
DOT RQ (lbs): No information available
Special Provisions No Information available
Symbol(s): No information available
Description: No information available

TDG (Canada)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant No Information available
Description: No information available

ADR

UN Number Not regulated
Proper Shipping Name: No information available
Transport hazard class(es) No information available
Packing group No information available
Subsidiary Risk: No information available

IMDG

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant No information available

RID

UN Number Not Regulated
Proper Shipping Name: No information available
Transport hazard class(es) No information available
Subsidiary Risk: No information available
Packing group No information available

ICAO (air)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class No information available
Subsidiary Risk: No information available
Packing Group: No information available

IATA

UN Number Not Regulated
Proper Shipping Name: No information available
Transport hazard class(es) No information available
Subsidiary Risk: No information available
Packing group No information available
Precautionary Statements - Response No information available
Special Provisions No information available

15. REGULATORY INFORMATION**International Inventories**

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
Water	7732-18-5	PresentACTIVE	Present KE-35400	Present	Not present	Present	Present	Present 231-791-2
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	PresentACTIVE	Present KE-01688	Present	Present (1)-314	Present	Present	Present 215-647-6

U.S. Regulations

Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)

Massachusetts RTK: Present

New Jersey RTK Hazardous Substance List: 0103

New Jersey - Discharge Prevention - List of Hazardous Substances: Present

New Jersey TCPA - EHS: 19000lbTQ

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: 1000lbfinal RQ

454kgfinal RQ

California Directors List of Hazardous Substances: Present

FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1139

FDA - 21 CFR - Total Food Additives 163.110, 163.111, 163.112, 177.1600, 184.1139, 73.85

- List Sourced from EAFUS

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:
Water	7732-18-5	Not Listed	Not Listed	Not Listed	Not Listed
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	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
Water	7732-18-5	None	None	None	None	None
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	1000 lb final RQ 454 kg final RQ	None	None	None	None

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
Water	7732-18-5	Not Applicable	Not Applicable
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	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.

Component

WHMIS 2015 Hazard Classification

Water

Not a dangerous product according to HPR classification criteria

7732-18-5 (75)

Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)

Health Hazard Not Otherwise Classified - Category 1: Causes severe damage to the respiratory tract; Skin corrosion/irritation - Category 1: H314 Causes severe skin burns and eye damage.; Serious Eye Damage/Eye Irritation - Category 1: H318 Causes serious eye damage.

1336-21-6 (25)

Canada Hazardous Products Regulation This product has not 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)
Water	7732-18-5	Present	Not Listed
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Water	7732-18-5	Not listed
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Water	7732-18-5	Not listed
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	Not listed

EU Classification**EU GHS - SV - CLP 1272/2008**

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Water	7732-18-5	
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	Skin corrosion/irritation - Skin Corr. 1B: H314 Causes severe skin burns and eye damage.; Hazardous to aquatic environment - acute hazard - Aquatic Acute 1: H400 Very toxic to aquatic life.007-001-01-2 Specific target organ toxicity - Single exposure - STOT SE 3: H335 May cause respiratory irritation. (C >= 5 %) 007-001-01-2

EU - CLP (1272/2008)**R-phrase(s)**

R50 - Very toxic to aquatic organisms

R36/37/38 - Irritating to eyes, respiratory system and skin

S-phrase(s)

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Water	7732-18-5		No information	
Ammonium Hydroxide consisting of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water (CAS no. 7732-18-5)	1336-21-6	C; R34 N; R50	5%<=C<10% Xi; R36/37/38 10%<=C C; R34	S:(1/2)-26-36/37/39-45-61

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

Indication of danger:

Xi - Irritant

N - Dangerous for the environment

16. OTHER INFORMATION

Preparation Date: 10/15/2019
Revision date 10/15/2019
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