

SAFETY DATA SHEET

Preparation Date: 11/03/2014

Revision Date: 9/20/2018

Revision Number: G5

1. IDENTIFICATION

Product identifier

Product code: A1195
Product Name: AMMONIUM HYDROXIDE, REAGENT, ACS

Other means of identification

Synonyms: L'hydroxyde d'ammonium(French)
 Aqueous Ammonia
 Aqua ammonia
 Ammonium Hydroxide with 27-31% Ammonia and 69-73% Water
 Hidróxido de amonio (Spanish)

CAS #: 1336-21-6
RTECS # BQ9625000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Bleaching agent. In the manufacturer of textiles. Detergent.
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: Martin LaBenz (West Coast)

Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to 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 4 |
| Acute toxicity - Inhalation (Gases) | Category 4 |
| Skin corrosion/irritation | Category 1 Sub-category B |
| Serious eye damage/eye irritation | Category 1 |
| Specific target organ toxicity (single exposure) | Category 3 |

Label elements

Danger

Hazard statements

Product code: A1195

Product name: AMMONIUM
 HYDROXIDE, REAGENT, ACS

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Harmful if swallowed
Harmful if inhaled
Causes severe skin burns and eye damage
May cause respiratory irritation



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Very toxic to aquatic life with long lasting effects
Very toxic to aquatic life

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
Wear protective gloves/protective clothing/eye protection/face protection
Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
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 or doctor/physician.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing 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: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting

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

| Components | CAS-No. | Weight % |
|--|-----------|----------|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 1336-21-6 | 100 |

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. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.
- Skin Contact:** Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician immediately.
- Eye Contact:** Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.
- Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. **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. Call a physician immediately.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If victim is conscious, give water or milk. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

Most important symptoms and effects, both acute and delayed

- Symptoms**
- Severe skin and eye irritation or burns
 - May cause inflammation and cause deep, penetrating ulcers of the skin, staining of the skin, and thickening of the skin
 - Causes digestive (gastrointestinal) tract irritation
 - May cause gastrointestinal (digestive) tract burns
 - Severe irritation of the upper respiratory tract
 - May cause chemical burns to the respiratory tract
 - May cause central nervous system effects
 - May affect the cardiovascular system

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:** Ammonia. Nitrogen Oxides.

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

Environmental precautions Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not let product enter drains. Do not flush into surface water or sanitary sewer system. 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. Absorb spill with inert material (e.g. vermiculite, dry sand or earth).

Methods for cleaning up Dilute with water. Neutralize the residue with a dilute solution of acetic acid. Use appropriate tools to put the spilled material in a suitable chemical waste disposal 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 containers tightly closed in a dry, cool and well-ventilated place. Store at room temperature in the original container. Keep at temperatures below 26 °C. Store in a segregated and approved area. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents
Acids
Metals
Powdered metals

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Product code: A1195

Product name: AMMONIUM
HYDROXIDE, REAGENT, ACS

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National occupational exposure limits

United States

| Components | CAS-No. | OSHA | NIOSH | ACGIH | AIHA WEEL |
|---|-----------|------|-------|-------|-----------|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 1336-21-6 | None | None | None | None |

Canada

| Components | CAS-No. | Canada - Alberta | Canada - British Columbia | Canada - Ontario | Canada - Quebec |
|---|-----------|------------------|------------------------------|------------------|-----------------|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 1336-21-6 | None | None | None | None |

Australia and Mexico

| Components | CAS-No. | Australia | Mexico |
|---|-----------|-----------|--------|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 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: Face-shield.

Skin and body protection: Chemical resistant protective suit
Gloves
Boots

Respiratory protection: Vapor respirator. 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:
Liquid

Appearance:
No information available.

Color:
Clear. Colorless.

Odor:
Strong. Ammonia.

Taste
Acrid.

Formula:
NH₄OH

| | | |
|---|---|--|
| Molecular/Formula weight (g/mole): 35.05 | Flammability: No information 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): -69.2 °C/-92.6 °F | Decomposition temperature(°C/°F): No information available |
| Boiling point/range(°C/°F): 31-38 °C/87.8-100.4 °F | Bulk density: No information available | Density (g/cm3): No information available |
| Specific gravity: 0.898 | pH: 11.6 - this is the actual pH in a 1 N solution | Vapor pressure @ 20°C (kPa): 287.9 @ 25 °C |
| Evaporation rate: No information available | Vapor density: No information available | VOC content (g/L): No information available |
| Odor threshold (ppm): 5-50 (as ammonia) | Partition coefficient (n-octanol/water): No information available | Viscosity: No information available |
| Miscibility: No information available | Solubility: Easily soluble in cold water | |

10. STABILITY AND REACTIVITY

Reactivity

Halogens, salts of silver and zinc, air and hydrocarbons, calcium, 1-chloro-2,4-dinitrobenzene, chloroformamidinium nitrate, 2-chloronitrobenzene, chlorine azide, magnesium perchlorate, halogens or interhalogens, iodine, potassium, nitrogen trichloride, potassium chlorate, nitryl chloride, chromyl chloride, chromium trioxide, trioxxygen difluoride, selenium difluoride dioxide, nitric acid, hydrogen peroxide, nitrogen oxide, dinitrogen tetraoxide, oxygen, platinum, silver chloride, thiocarbonyl azide thiocyanate, sulfanyl chloride, thiotriazyl chloride, tetramethylammonium amide, tellurium tetrachloride, tellurium tetrabromide, silver (I) oxide, dichlorine oxide, silver nitrate, ethylene oxide, acetaldehyde, acrolein, boron, boron triiodide, bromine, bromine pentafluoride, fluorine, chloric acid, chlorine monoxide, chlorine trifluoride, chlorites, chlorosilane, chromic anhydride, ethylene dichloride, hydrogen bromide, hypochlorous acid, nitrogen peroxide, fluorine, some heavy metals (gold, silver, mercury), hexachloromelamine, hydrazine, alkali metals, nitrogen trifluoride, oxygen difluoride, phosphorous trioxide, potassium and arsine, potassium and phosphine, potassium and sodium nitrite, potassium ferricyanide, potassium mercuricyanide, sodium and carbon monoxide, stibine, sulfur, sulfur dichloride, tellurium hydropentachloride, trichloromelamine, Organic acids, amides, organic anhydrides, isocyanates, vinyl acetate, epichlorhydrin, aldehydes, Acrylic acid, chlorosulfonic acid, dimethyl sulfate, fluorine, gold + aqua regia, hydrochloric acid, hydrofluoric acid, hydrogen peroxide, iodine, nitric acid, oleum, propiolactone, propylene oxide, silver nitrate, silver oxide + ethyl alcohol, nitromethane, silver permanganate, sulfuric acid, gold, mercury, and halide salts. Forms explosive compounds with many heavy metals (silver, lead, zinc). Forms explosive compounds with many heavy metals such as silver, lead, zinc and their halide salts. It can form shock sensitive compounds with halogens, mercury oxide, and silver oxide

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Incompatible materials.

Incompatible Materials:
Oxidizing agents
Acids
Metals
Powdered metals

Hazardous decomposition products: Ammonia gas may be liberated at high temperatures. Nitrogen oxides (NOx).

Other Information

Corrosivity: Severe corrosive effect on Brass
Severe corrosive effect on Bronze

Special Remarks on Corrosivity: Corrosive to galvanized surfaces. Severe corrosive effect on brass and bronze. Liquid Ammonia or Ammonium Hydroxide will attack some forms of plastics, rubber and coatings such as ABS, Acetal, Hytrel, Buna (Nitrile), Natural Rubber, LDPE, Nylon, Polycarbonate, Hypalon, and Viton.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Skin. Inhalation. Ingestion. Eyes.

Acute Toxicity

Component Information

| | |
|--|-----------|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | |
| 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 Tox Oral = 350 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = No information available

LD50/dermal/rabbit
VALUE-Acute Tox Dermal = No information available

LD50/dermal/rat
VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = 6452-7407 ppm ppm (4-hr)
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: | Severe skin irritation. Causes skin burns. May cause deep penetrating ulcers of the skin. Contact with skin may cause staining, inflammation, and thickening of the skin. |
| Eye Contact: | Severe eye irritation. Causes eye burns. May cause irreversible eye damage. May cause corneal damage. May cause cataracts. |
| Inhalation | Causes severe irritation of the respiratory tract and mucous membranes with coughing, burns, breathing difficulty, and possible coma. Irritation may lead to chemical pneumonitis, pneumoconiosis, fibrosis, and pulmonary edema. Can cause chemical burns to the respiratory tract and mucous membranes. It is a respiratory stimulant when inhaled at lower concentrations. It may also affect behavior/central nervous system (convulsions, seizures, ataxia, tremor), cardiovascular system (increase in blood pressure and pulse rate). |
| Ingestion | Harmful if swallowed. Causes gastrointestinal tract corrosion, burns, swelling of the lips, mouth, and larynx, throat constriction, nausea, vomiting, convulsions, shock and may cause severe and permanent damage to the digestive tract with perforation of the digestive tract. It may also affect the liver, and urinary system (kidneys), behavior/central nervous system (convulsions, seizures, ataxia, excitement). |
| Aspiration hazard | No information available. |

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

| | |
|------------------------------|--|
| Chronic Toxicity | Ingestion: May cause effects similar to those of acute ingestion. Inhalation: Repeated exposure to low concentrations may cause bronchitis with cough, phlegm, and/or shortness of breath. May also cause liver and kidney damage, and affect the brain, and blood. Eye: May cause corneal damage and the development of cataracts and glaucoma. Skin: Repeated skin contact to low concentrations may cause dryness, itching, and redness (dermatitis). |
| Sensitization: | No information available. |
| Mutagenic Effects: | May affect genetic material Mutations in microorganisms |
| Carcinogenic effects: | Not considered carcinogenic. |

| Components | CAS-No. | IARC | ACGIH - Carcinogens | NTP | OSHA HCS - Carcinogens | Australia - Notifiable Carcinogenic Substances | Australia - Prohibited Carcinogenic Substances |
|---|-----------|------------|---------------------|------------|------------------------|--|--|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 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 Respiratory system.
STOT - repeated exposure No information available.
Target Organs: Skin. Eyes. Respiratory system.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Ammonium Hydroxide

[Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] -

Freshwater Fish Species Data: 8.2 mg/L LC50 Pimephales promelas 96 h 1

Water Flea Data: 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: 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

| Components | CAS-No. | RCRA - F Series Wastes | RCRA - K Series Wastes | RCRA - P Series Wastes | RCRA - U Series Wastes |
|--|-----------|------------------------|------------------------|------------------------|------------------------|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 1336-21-6 | None | None | None | None |

14. TRANSPORT INFORMATION

DOT

UN-No: UN2672
Proper Shipping Name: Ammonia solution
Hazard Class: 8
Subsidiary Class No information available
Packing group: III
Emergency Response Guide Number 154
Marine Pollutant No data available

DOT RQ (lbs): No information available
Special Provisions 336, IB3, IP8, T7, TP2
Symbol(s): [DOT]: (R3) - Identifies a material that is a hazardous substance that has a reportable quantity (RQ) of 100 pounds (45.4 Kilograms).
Description: UN2672, Ammonia solution, 8, III

TDG (Canada)
UN-No: UN2672
Proper Shipping Name: Ammonia solution
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No Information available
Description: UN2672, Ammonia solution, 8, III

ADR
UN-No: UN2672
Proper Shipping Name: Ammonia solution
Hazard Class: 8
Packing Group: III
Subsidiary Risk: No information available
Special Provisions 543
Description: UN2672, Ammonia solution, 8, III, ENVIRONMENTALLY HAZARDOUS

IMO / IMDG
UN-No: UN2672
Proper Shipping Name: Ammonia solution
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant No information available
EMS: F-A
Description UN2672, Ammonia solution (AMMONIUM HYDROXIDE CONSISTING OF 27-31% AMMONIA (CAS NO. 7664-41-7) IN 69-73% WATER (CAS NO. 7732-18-5)), 8, III, Marine pollutant

RID
UN-No: UN2672
Proper Shipping Name: Ammonia solution
Hazard Class: 8
Subsidiary Risk: 8
Packing Group: III
Special Provisions 543
Description: UN2672, Ammonia solution, 8, III, ENVIRONMENTALLY HAZARDOUS

ICAO
UN-No: UN2672
Proper Shipping Name: Ammonia solution
Hazard Class: 8
Subsidiary Risk: No information available
Packing Group: III
Description: UN2672, Ammonia solution, 8, III
Special Provisions A64

IATA
UN-No: UN2672
Proper Shipping Name: Ammonia solution
Hazard Class: 8
Subsidiary Risk: No information available

Packing Group: III
ERG Code: 8L
Special Provisions No information available
Description: UN2672, Ammonia solution, 8, III

15. REGULATORY INFORMATION

International Inventories

| Components | CAS-No. | U.S. TSCA | KOREA KECL | Philippines (PICCS) | Japan ENCS | CHINA | Australia (AICS) | EINECS-No. |
|--|-----------|----------------|------------------|---------------------|-----------------|---------|------------------|-------------------|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 1336-21-6 | PresentACTIV E | Present KE-01688 | Present | Present (1)-314 | Present | Present | Present 215-647-6 |

U.S. Regulations

Ammonium Hydroxide

[Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water]

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)

| Components | CAS-No. | Carcinogen | Developmental Toxicity | Male Reproductive Toxicity | Female Reproductive Toxicity: |
|--|-----------|------------|------------------------|----------------------------|-------------------------------|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 1336-21-6 | Not Listed | Not Listed | Not Listed | Not Listed |

CERCLA/SARA

| Components | 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 Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 1336-21-6 | 1000 lb final RQ 454 kg final RQ | None | None | None | None |

U.S. TSCA

| Components | CAS-No. | TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS) | TSCA 8(d) -Health and Safety Reporting |
|--|-----------|---|--|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 1336-21-6 | Not Applicable | Not Applicable |

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component
Ammonium Hydroxide
[Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water]
(100)

WHMIS 2015 Hazard Classification
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.

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

| Components | WHMIS Ingredient Disclosure List - |
|--|------------------------------------|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 1 % |

Inventory

| Components | CAS-No. | Canada (DSL) | Canada (NDSL) |
|--|-----------|--------------|---------------|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 1336-21-6 | Present | Not Listed |

| Components | CAS-No. | CEPA Schedule I - Toxic Substances |
|--|-----------|---|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 1336-21-6 | Not listed |
| Components | CAS-No. | CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting |
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 1336-21-6 | Not listed |

EU Classification

EU GHS - SV - CLP 1272/2008

| Components | CAS-No. | EU GHS - SV - CLP (1272/2008) |
|--|-----------|---|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 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 |

EU - CLP (1272/2008)

R-phrase(s)

R34 - Causes burns.

R50 - Very toxic to aquatic organisms.

S -phrase(s)

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

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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

S 1/2 - Keep locked up and out of the reach of children.

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

| Components | CAS-No. | Classification | Concentration Limits: | Safety Phrases |
|---|-----------|------------------|---|-------------------------------|
| Ammonium Hydroxide [Consists of 27-31% Ammonia (CAS no. 7664-41-7) in 69-73% Water] | 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:**

C - Corrosive.

N - Dangerous for the environment.

**16. OTHER INFORMATION**

Preparation Date: 11/03/2014
Revision Date: 9/20/2018
Prepared by: Sonia Owen

Disclaimer:

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End of Safety Data Sheet