

SAFETY DATA SHEET

Preparation Date: 11/14/2019

Revision date 11/14/2019

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: A-323
Product Name: AMMONIUM CHLORIDE-AMMONIUM HYDROXIDE TS, (U.S.P. TEST 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: Standardized solution. Laboratory reagent.
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)

Acute toxicity - Inhalation (Vapors)	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3

Label elements

Danger

Hazard statements

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

Product code: A-323

Product name: AMMONIUM
 CHLORIDE-AMMONIUM HYDROXIDE
 TS, (U.S.P. TEST SOLUTION)

Page 1 / 16



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

May be harmful if swallowed

Precautionary Statements - Prevention

Use only outdoors or in a well-ventilated area

Do not breathe mist or vapors

Wash face, hands and any exposed skin thoroughly after handling

Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or 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 physician.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water

Wash contaminated clothing before reuse

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

IF SWALLOWED: 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 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	55.5
Ammonium chloride	12125-02-9	30
Ammonia	7664-41-7	14.5

4. FIRST AID MEASURES

First aid measures

General Advice:

National Capital Poison Center in the United States can provide assistance if you

Product code: A-323

Product name: AMMONIUM
CHLORIDE-AMMONIUM HYDROXIDE
TS, (U.S.P. TEST SOLUTION)

Page 2 / 16

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 or poison control center 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 not breathing, give artificial respiration. If breathing is difficult, give oxygen. **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.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms

- Causes serious eye damage
- Causes severe skin burns
- Irritating to respiratory system
- Coughing
- May cause pulmonary edema
- May cause inflammation and edema of the larynx and bronchi
- Coma
- May affect respiration (dyspnea, respiratory stimulation)
- May affect behavior/central nervous system (somnolence, tremor)
- Convulsions
- Seizures
- Confusion
- Drowsiness
- Ataxia
- Excitement
- May cause mydriasis (dilated pupils)
- May cause cardiovascular effects
- May cause metabolic acidosis
- May cause hyperglycemia
- High blood pressure
- May cause gastrointestinal (digestive) tract burns
- Burning pain in the mouth, throat, stomach. Ulceration/burning of the mouth, throat, stomach
- May cause cataracts
- It may cause dermatitis

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

A sudden increase in temperature and pressure preceded a violent explosion when heating 1-chloro-2,4-dinitrobenzene and ammonia in a direct fired autoclave.

Reaction with liquid ammonia and chlorine azide gives an explosive yellow liquid.

Liquid ammonia + 1,2 dichloroethane may explode.

Passing ammonia gas over magnesium perchlorate desiccant causes intensive drying of ammonia gas which leads to an exotherm, followed by a violent explosion.

Ammonia is capable of reacting with some heavy metal compounds (gold, silver, mercury) to produce materials, some of uncertain constitution, which may explode violently when dry.

Action of ammonia or ammonium salts on gold (III) chloride, oxide or other salts under a variety of conditions gives explosive or "fulminating" gold.

Halogens or interhalogens + ammonia either reacts violently or produces explosive products.

Ammonia + nitrogen trichloride produces endothermic and explosive nitrogen trichloride.

Reaction of ammonia + selenium difluoride dioxide is violent and many of the products and derivatives are both shock and heat sensitive explosives. These include ammonium, potassium silver and thallium salts of the "triselenimidate" ion.

Violent explosions with ammonia + nitrogen oxide can occur in ammonia synthesis gas units.

Liquid ammonia + solid dinitrogen tetraoxide reacts explosively.

Oxygen + Platinum: oxidation of ammonia to nitric acid over platinum catalysts, substitution of oxygen for air causes fairly vigorous explosions.

Thiocarbonyl azid thiocyanate reacts explosively with ammonia gas.

Thiotriazyl chloride will rapidly absorb ammonia gas and then explode.

Tetramethylammonium amide decomposes explosively at ambient temp. in presence of ammonia.

Liquid ammonia + tellurium tetrachloride at -15°C forms tellurium nitride which explodes at 200°C.

Ammonia + tellurium tetrabromide gives a mixture of tritellurium tetramitride and tellurium bromide nitride, which explodes on heating.

Liquid ammonia + ethylene oxide causes violent

polymerization and a vapor cloud explosion. Ammonia + picric acid forms explosive salts. (Ammonia, anhydrous). 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 [Ammonium hydroxide]. Explosive reaction between bromine trifluoride and ammonium halides (Ammonium chloride).

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. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak. 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 product from entering drains. 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). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up

Neutralize 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. Use only in well-ventilated areas. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Store in a segregated and approved area.

Incompatible Materials:

Oxidizing agents
 Acids
 Alkalis
 Metals

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 chloride	12125-02-9	None	10 mg/m ³ TWA 20 mg/m ³ STEL	20 mg/m ³ STEL fume 10 mg/m ³ TWA fume	None
Ammonia	7664-41-7	50 ppm TWA 35 mg/m ³ TWA	= 25 ppm TWA	= 35 ppm STEL	None

Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Water	7732-18-5	None	None	None	None
Ammonium chloride	12125-02-9	10 mg/m ³ TWA fume 20 mg/m ³ STEL fume	10 mg/m ³ TWA fume 20 mg/m ³ STEL fume	20 mg/m ³ STEL	10 mg/m ³ TWAEV fume 20 mg/m ³ STEV fume
Ammonia	7664-41-7	= 17 mg/m ³ TWA = 25 ppm TWA	= 25 ppm TWA	25 ppm TWA	25 ppm TWAEV 17 mg/m ³ TWAEV 35 ppm STEV 24 mg/m ³ STEV

Australia and Mexico

Component	CAS No	Australia	Mexico
Water	7732-18-5	None	None
Ammonium chloride	12125-02-9	20 mg/m ³ STEL 10 mg/m ³ TWA	10 mg/m ³ TWA 20 mg/m ³ STEL
Ammonia	7664-41-7	24 mg/m ³ STEL 35 ppm STEL 25 ppm TWA 17 mg/m ³ TWA	= 18 mg/m ³ TWA = 25 ppm TWA

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. Goggles

Skin and body protection: Chemical resistant protective suit
 Boots

Gloves

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 and face before breaks and immediately after handling the product

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid	Appearance: Clear.	Color: Colorless.
Odor: Ammonia. Pungent.	Taste Acrid.	Formula No information available
Molecular/Formula weight (g/mole): No information available	Flammability (solid, gas) no data available	Flashpoint (°C/°F): 651°C/1204°F
Flash Point Tested according to: Not available	Autoignition Temperature (°C/°F): No information available	Lower Explosion Limit (%): 16% (Ammonia)
Upper Explosion Limit (%): 25% (Ammonia)	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): 1.06 (weighted average)
Specific gravity: No information available	pH 12-14	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): 5 ppm	Partition coefficient (n-octanol/water): No information available	Viscosity: No information available
Miscibility: No information available	Solubility: Soluble in Methanol Soluble in diethyl ether Soluble in Water Insoluble in Acetone	

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, thiotriazolyl chloride, tetramethylammonium amide, tellurium tetrachloride, tellurium tetrabromide, silver (I) oxide, dichlorine oxide, silver nitrate, ethylene oxide, acetaldehyde, acrolein, boron, boron triiodide, borine, 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 +

Product code: A-323

Product name: AMMONIUM
CHLORIDE-AMMONIUM HYDROXIDE
TS, (U.S.P. TEST SOLUTION)

Page 7 / 16

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 siliver oxide
If accidently mixed with oxidizers like potassium chlorate, potassium nitrate or potassium nitrite, there is an explosion. A mixture of ammonium sulfate and ammonium nitrate can easily be exploded by potassium or sodium-potassium alloy.

Chemical stability

Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Incompatible materials. Ignition sources.

Incompatible Materials: Oxidizing agents
Acids
Alkalis
Metals

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:
Ingestion. Inhalation. Skin. Eyes.

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 1595 mg/kg
ATEmix (inhalation-gas) 13793 mg/l
ATEmix (inhalation-dust/mist) 3.5 mg/l

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	
Other LD50 or LC50information = No information available	

Ammonium chloride	
CAS No	12125-02-9
LD50/oral/rat = = 1650 mg/kg Oral LD50 Rat	
LD50/oral/mouse = No information available	

LD50/dermal/rabbit = No information available
LD50/dermal/rat = = 1650 mg/kg Oral LD50
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

Ammonia	
CAS No	7664-41-7

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 = 2000 ppm Inhalation LC50 Rat 4 h
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = No information available

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 burns. Severe skin irritation. May cause deep penetrating ulcers of the skin. Contact with skin may cause staining, inflammation, and thickening of the skin.

Eye Contact: Causes eye burns. Causes serious eye irritation. Corrosive to the eyes and may cause severe damage including blindness. May cause corneal damage. May cause cataracts. It may cause Salt Cataract, increased ocular pressure, and degeneration of the retina.

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

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). May affect behavior/central nervous system (headache, somnolence, confusion, drowsiness, tremor, convulsions, coma), eyes (Mydriasis), cardiovascular system (bradycardia), respiration (respiratory stimulation, apnea, hyperventilation, pulmonary edema). May cause serious metabolic acidosis with hypokalemia. Transient hyperglycemia and glycosuria may also occur. May cause hyperchloremia. May cause thirst. May cause shock. May affect urinary system (kidneys).

Aspiration hazard

No information available.

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

Chronic Toxicity

Prolonged or repeated ingestion may cause metabolic acidosis and affect the urinary system (kidneys).
Inhalation: Prolonged or repeated inhalation may cause asthma-like allergy. Symptoms may include bronchospasm, shortness of breath, wheezing, cough, and/or chest tightness. 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.
Skin: Repeated skin contact to low concentrations may cause dryness, itching, and redness (dermatitis).

Sensitization:

No information available.

Mutagenic Effects:

May affect genetic material
Experiments with bacteria and/or yeast have shown mutagenic effects

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 chloride	12125-02-9	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Ammonia	7664-41-7	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:
Developmental Effects:
Teratogenic Effects:**

No information available
No information available
No information available

Product code: A-323

Product name: AMMONIUM
CHLORIDE-AMMONIUM HYDROXIDE
TS, (U.S.P. TEST SOLUTION)

Specific Target Organ Toxicity

STOT - single exposure respiratory system.
STOT - repeated exposure No information available.
Target Organs: Skin. Eyes. Respiratory system. Lungs. Kidneys.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Ammonium chloride - 12125-02-9

Fish LC50: =209mg/L (96h, Cyprinus carpio) LC50: =725mg/L (24h, Lepomis macrochirus)

Crustacea LC50: =202mg/L (24h, Daphnia magna)

Ammonia - 7664-41-7

Fish 0.73 - 2.35 mg/L LC50 Pimephales promelas 96 h 1
0.44 mg/L LC50 Cyprinus carpio 96 h 1
5.9 mg/L LC50 Pimephales promelas 96 h static 1
0.26 - 4.6 mg/L LC50 Lepomis macrochirus 96 h 1
1.5 mg/L LC50 Poecilia reticulata 96 h 1
1.19 mg/L LC50 Poecilia reticulata 96 h static 1
1.17 mg/L LC50 Lepomis macrochirus 96 h flow-through 1
Crustacea 25.4 mg/L LC50 Daphnia magna 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. Do not re-use empty containers
Dispose of as unused product.

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 chloride	12125-02-9	None	None	None	None
Ammonia	7664-41-7	None	None	None	None

14. TRANSPORT INFORMATION

DOT

Product code: A-323

Product name: AMMONIUM
CHLORIDE-AMMONIUM HYDROXIDE
TS, (U.S.P. TEST SOLUTION)

Page 11 / 16

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 Number UN2672
Proper Shipping Name: Ammonia solution
Transport hazard class(es) 8
Packing group III
Subsidiary Risk: No information available
Special Provisions 543
Description: UN2672, Ammonia solution, 8, III, ENVIRONMENTALLY HAZARDOUS

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, 8, III, Marine pollutant

RID

UN Number UN2672
Proper Shipping Name: Ammonia solution
Transport hazard class(es) 8
Subsidiary Risk: No information available
Packing group III
Special Provisions 543
Description: UN2672, Ammonia solution, 8, III, ENVIRONMENTALLY HAZARDOUS

ICAO (air)

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 Number UN2672
Proper Shipping Name: Ammonia solution
Transport hazard class(es) 8
Subsidiary Risk: No information available
Packing group III
Precautionary Statements - Response 8L
Special Provisions No information available
Description: UN2672, Ammonia solution, 8, III

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 chloride	12125-02-9	PresentACTIVE	Present KE-01645	Present	Present (1)-218	Present	Present	Present 235-186-4
Ammonia	7664-41-7	Present	Present KE-01625	Present	Present (1)-391	Present	Present	Present 231-635-3

U.S. Regulations

Ammonium chloride

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 0093
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
 5000 lb RQ
 100 lb RQ
Louisiana Reportable Quantity List for Pollutants: 5000lbfinal RQ
 2270kgfinal RQ
California Directors List of Hazardous Substances: Present
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 184.1138
FDA - 21 CFR - Total Food Additives 178.1010, 184.1138 (also listed as Ammonia (also includes Ammonium chloride))
- List Sourced from EAFUS

Ammonia

Massachusetts RTK: Present
Massachusetts EHS: extraordinarily hazardous
New Jersey RTK Hazardous Substance List: 0084
New Jersey (EHS) List: 0084 500 lb TPQ
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
New Jersey TCPA - EHS: =10000lbTQ
 =20000lbTQ
 =5200lbTQ
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
Pennsylvania RTK - Special Hazardous Substances Present
Michigan PSM HHC: = 10000 lb TQ anhydrous
 = 15000 lb TQ solutions greater than 44% ammonia by weight
Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
 = 100 lb RQ

Louisiana Reportable Quantity List for Pollutants: Listed
 California Directors List of Hazardous Substances: Present
 FDA - 21 CFR - Total Food Additives Present
 - 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 chloride	12125-02-9	Not Listed	Not Listed	Not Listed	Not Listed
Ammonia	7664-41-7	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 chloride	12125-02-9	5000 lb final RQ 2270 kg final RQ	None	None	None	None
Ammonia	7664-41-7	= 45.4 kg final RQ	500 lb TPQ 100	None	None	1.0 % de minimis concentration

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 chloride	12125-02-9	Not Applicable	Not Applicable
Ammonia	7664-41-7	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

Component
 Water
 7732-18-5 (55.5)
 Ammonium chloride
 12125-02-9 (30)

Ammonia
 7664-41-7 (14.5)

WHMIS 2015 Hazard Classification
 Not a dangerous product according to HPR classification criteria

Acute toxicity - Oral - Category 4: H302 Harmful if swallowed.;
 Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation.;
 Combustible Dust - Category 1: May form combustible dust concentrations in air (factors such as combustibility and explosiveness of dusts including composition and shape and size of particles could cause substance to belong to 'Combustible dust' hazard class)
 Flammable gases - Category 1: H220 Extremely flammable gas.;
 Gases under pressure - Dissolved gas: H280 Contains gas under pressure, may explode when heated. (Ammonia solution, in water, with 35 - 50% Ammonia);
 Gases under pressure - Liquefied gas: H280 Contains gas under pressure, may explode when heated.;

Acute toxicity - Inhalation - Category 3: H331 Toxic if inhaled. (Ammonia solution, in water, with more than 50% Ammonia; releases a toxic gas (Ammonia)); 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

DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
Water	7732-18-5	Present	Not Listed
Ammonium chloride	12125-02-9	Present	Not Listed
Ammonia	7664-41-7	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Water	7732-18-5	Not listed
Ammonium chloride	12125-02-9	Not listed
Ammonia	7664-41-7	Present
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Water	7732-18-5	Not listed
Ammonium chloride	12125-02-9	Not listed
Ammonia	7664-41-7	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Water	7732-18-5	
Ammonium chloride	12125-02-9	Acute toxicity - Oral - Acute Tox. 4: H302 Harmful if swallowed. (Minimum classification); Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye irritation.017-014-00-8
Ammonia	7664-41-7	

EU - CLP (1272/2008)

R-phrase(s)

- R20 - Harmful by inhalation
- R34 - Causes burns
- R37 - Irritating to respiratory system
- R41 - Risk of serious damage to eyes

S -phrase(s)

- S 7 - Keep container tightly closed.
- S 9 - Keep container in a well-ventilated place.
- S16 - Keep away from sources of ignition - No smoking
- S36 - Wear suitable protective clothing
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
- S28 - After contact with skin, wash immediately with plenty of water

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

S63 - In case of accident by inhalation: remove casualty to fresh air and keep at rest

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

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Water	7732-18-5		No information	
Ammonium chloride	12125-02-9	Xn; R22 Xi; R36	No information	
Ammonia	7664-41-7	C;R34 N;R50 R10 T;R23	0.5%<=C<5% Xn;R20-36/37/38 5%<=C T;R23-34	S(1/2)-S9-S16-S26-S3 6/37/39-S45-S61

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

Indication of danger:

C - Corrosive

Xn - Harmful

N - Dangerous for the environment



16. OTHER INFORMATION

Preparation Date: 11/14/2019
Revision date: 11/14/2019
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