Revision date: 03/23/2015 *Version: 1.0*

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name/designation:	Ammonium Hydroxide 28-30%
Product No.:	BDH3014-500MLP BDH3016-2.5LG BDH3018-2.5LPC BDH3020-3.8LP BDH3022-194L TX3022-194LSRI TX3022194LSOI TXBDH302038CPI TXLBDH3022DSOI BDH3120-19L BDH3121-19L BDH3126-2.2LP
Other means of identification: Aqueous ammonia, Ammonia solution	

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Manufacturing and Laboratory use

1.3. Details of the supplier of the safety data sheet

Company VWR International, LLC
Radnor Corporate Center
100 Matsonford Road
Radnor, PA 19087-8660
Telephone 610.386.1700

1.4. Emergency Telephone number

CHEMTREC 800.424.9300
CANUTEC 613.996.6666

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

For the full text of the H-Statement(s) and R-phrase(s) mentioned in this Section, see Section 16.

Hazard classes and hazard categories	Hazard statements
Acute toxicity, Oral; Category 4	Harmful if swallowed
Skin corrosion; Category 1A	Causes severe skin burns and eye damage
Serious eye damage; Category 1	Causes serious eye damage
Acute aquatic toxicity; Category 1	Very toxic to aquatic life

2.2. GHS Label elements, including precautionary statements

Pictograms 

Signal word Danger

Hazard statements	
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H400	Very toxic to aquatic life.

Precautionary statements	
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do not induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/physician.
P363	Wash contaminated clothing before reuse.

P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

2.3. WHIMS Classification

Class D-1B: Poisonous and infectious material- Immediate and serious effects- Toxic

Class E: Corrosive material

2.4. Hazards not otherwise classified (HNOC) or not covered by GHS or WHIMS

Lachrymator

SECTION 3: Composition / information on ingredients

3.1. Hazard components

Chemical name	Formula	Molecular weight	CAS#	Weight%
Ammonium Hydroxide	H_5NO	35.05 g/mol	1336-21-6	28-30

SECTION 4: First aid measures

4.1. General information

In case of inhalation

Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respirations.

In case of skin contact

Flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention immediately.

In case of eye contact

Immediately rinse with plenty of water for at least 15 minutes and seek medical attention.

In case of ingestion

Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

May cause deep, penetrating ulcers of the skin. Contact with skin may cause staining, inflammation, and thickening of the skin. Contact to eyes may cause severe burns and possible irreversible eye damage including corneal injury and cataracts. Inhalation may cause coughing burns and breathing difficulty. May cause acute pulmonary edema, pneumoconiosis, fibrosis, and even coma. It is a respiratory stimulant when inhaled at lower concentrations. Ingestion may cause burns, swelling of the lips, mouth, and larynx, throat constriction, nausea, vomiting, convulsions, shock, and may cause severe and permanent damage to gastrointestinal tract.

4.3. Indication of any immediate medical attention and special treatment needed

Not Available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use appropriate media for adjacent fire. Cool unopened containers with water.

5.2. Special hazards arising from the substance or mixture

Nitrogen oxides and ammonia

5.3. Special protective equipment for firefighters

Not Available

5.4. Hazardous combustion products

Not Available

5.5. Advice for firefighters

Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.

5.6. Additional information

Not Available

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8 for recommendations on the use of personal protective equipment.

6.2. Environmental precautions

Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.

6.3. Methods and material for containment and cleaning up

Neutralize spill with sodium bicarbonate or soda lime. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

6.4. Additional information

Not Available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of aerosols.

7.2. Conditions for safe storage, including any incompatibilities

Store in cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

7.3. Specific end use(s)

Not Available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Chemical Name	Limit value type & Country of Origin	Exposure Limit value	Source
Ammonium Hydroxide	TWA	25 ppm	ACGIH
	STEL	35 ppm	ACGIH
	TWA	25 ppm 18 mg/m^3	NIOSH
	STEL	35 ppm 27 mg/m^3	NIOSH

8.2. Exposure controls

Appropriate engineering controls

Showers
Eye wash stations
Ventilation system

Personal protection equipment

Eye/face protection

Safety glasses or goggles with face shield

Skin protection

Nitrile or rubber gloves and full body protection

Respiratory protection

Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practices.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

a)	Appearance:	
	Physical state	Liquid
	Color	Clear, colorless
b)	Odor	Intense, suffocating odor of ammonia
c)	Odor Threshold	5-50 ppm as ammonia
d)	pH	>11
e)	Melting point/ freezing point	-69.2°C (-92.6°F)
f)	Initial boiling point and boiling range	38-100°C (100-212°F)
g)	Flash point	Not Available
h)	Evaporation rate	Not Available
i)	Flammability (solid, gas)	Not Available
j)	Upper/lower flammability or explosive limits	Not Available
k)	Vapor pressure	287.9 kPa (@ 20°C)
l)	Vapor density	Not Available
m)	Relative density	0.898
n)	Solublities	Not Available
o)	Partition coefficient	Not Available

	(n-Octanol/Water)	
p)	Auto-ignition temperature	Not Available
q)	Decomposition temperature	
r)	Viscosity	Not Available
s)	Explosive properties	Not Available
t)	Oxidizing properties	Not Available

9.2. Other information

Not Available

SECTION 10: Stability and reactivity

10.1. Reactivity

Not Available

10.2. Chemical stability

Stable under normal storage conditions

10.3. Possibility of hazardous reactions

Not Available

10.4. Conditions to avoid

Not Available

10.5. Incompatible materials

Zinc, iron, copper

10.6. Hazardous decomposition products

Nitrogen oxides, ammonia

SECTION 11: Toxicology

11.1. Information on toxicological effects

Acute toxicity

Oral LD_{50} - rat - 350 mg/kg

Inhalation LC_{50}

Dermal LD_{50}

Other information on acute toxicity

Skin corrosion/irritation
Not Available

Serious eye damage/eye irritation
Not Available

Respiratory or skin sensitization
Not Available

Germ cell mutagenicity
Not Available

Carcinogenicity
Not Available

Reproductive toxicity
Not Available

Specific target organ toxicity-single exposure
Not Available

Specific target organ toxicity-repeated exposure
Not Available

Aspiration hazard
Not Available

Additional information
Not Available

SECTION 12: Ecological information

12.1. Ecotoxicity

Mortality NOEC - Oncorhynchus tshawytscha - 3.5 mg/l - 3.0 d
LC50 - Daphnia magna (Water flea) - 32 mg/l - 50 h

12.2. Persistence and degradability

Not Available

12.3. Bioaccumulative potential

Not Available

12.4. Mobility in soil

Not Available

12.5. Results of PBT and vPvB assessment

Not Available

12.6. Other adverse effects

Not Available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

Land Transport DOT (U.S.)

UN Number 2672

Proper Shipping name Ammonia solution

Transport Hazard Classes

Class 8

Hazard Label(s) 8

Packing Group III

Environmental hazard(s)

Special precautions for user

Sea Transport IMDG

UN Number 2672

Proper Shipping name Ammonia solution

Transport Hazard Classes

Class 8

Hazard Label(s) 8

EMS- No. F-A, S-B

Packing Group III

Environmental hazard(s)

Segregration Group
Special precautions for user

Air Transport IATA

UN Number 2672
Proper Shipping name Ammonia solution
Transport Hazard Classes
Class 8
Hazard Label(s) 8
Packing Group III
Environmental hazard(s)
Special precautions for user

SECTION 15: Regulatory information

OSHA Hazards

Corrosive, Toxic by ingestion

SARA 302 Extremely Hazardous Substances

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302

SARA 313 (TRI reporting)

Ammonium Hydroxide

SARA 311/312 Hazardous Chemicals

Acute Health Hazard

Massachusetts Right-To-Know Substance List

Ammonium Hydroxide

Pennsylvania Right-To-Know Hazardous substances

Ammonium Hydroxide
Water

New Jersey Worker and Community Right-To-Know Components

Ammonium Hydroxide
Water

California Propostion 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Inventory status:
Canada DSL Inventory List: Listed
US TSCA Inventory List: Listed
EINECS, ELINCS or NLP: 215-647-6

SECTION 16: Other information

Full text of H-Statement(s) and R-phrase(s)

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H400 Very toxic to aquatic life.

R25 Toxic if swallowed.
R34 Causes burns.

Canadian Carcinogenicity hazard class
PHNOC hazard class
HHNOC hazard class
Biohazardous Infectious Materials hazard class

NFPA Rating:
Health: 3
Flammability: 0
Reactivity: 0
Special Hazard:

DISCLAIMER

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and its Affiliates shall not be held liable for any damage resulting from handling.