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

1.1 Product identifier

Product name	AMMONIUM HYDROXIDE 25% SOLUTION
CAS-No.	1336-21-6
Product code	AR1304, BP1304, EP1304, RP1304

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

Identified uses	Chemical for analysis and production.

1.3 Details of the manufacturer of the safety data sheet

Manufacturer	RCI LABSCAN LIMITED. 24 Rama 1 Road, Pathumwan, Bangkok 10330 Thailand
Telephone number	(662) 613-7911-4
Fax number	(662) 613-7915

1.4 Emergency Telephone Number

Emergency phone	(662) 613-7911-4

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Skin corrosion (Category 1B), H314
Serious eye damage (Category 1), H318
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Acute aquatic toxicity (Category 1), H400
Chronic aquatic toxicity (Category 2), H411
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal word	Danger

Hazard statement(s)

H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P260	Do not breathe vapours/ spray.
P264	Wash hand thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
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.

P302 + P361 + P354	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P354 + P338	IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P316	Get emergency medical help immediately.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.

2.3 Other hazards None

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixture

Ammonium hydroxide solution

Synonyms Ammonia aqueous solution, Ammonia solution, Ammonium hydrate.

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
1336-21-6	215-647-6	007-001-01-2	NH_4OH	35.05 g/mol	≥25

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	CAS-No	Formula	Concentration (%)	Classification
Ammonia	7664-41-7	NH_3	25	Flammable gases (Category 2), H221 Gases under pressure, (Liquefied gas), H280 Acute toxicity (Category 3), H331 Skin corrosion (Category 1B), H314 Serious eye damage (Category 1), H318
Water	7732-18-5	H_2O	75	-

For the full text of the H-Statements mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus.
Skin contact	Remove contaminated clothing and wash affected skin with soap and water. Obtain medical attention.
Eye contact	If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.
Ingestion	After swallowing: make victim drink water (two glasses at the most), avoid vomiting, risk of perforation. Immediately call in physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in section 2.2 and section 11.

4.3 Indication of any immediate medical attention and special treatment needed

Not Available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

In adaption to materials stored in the immediate neighborhood.

5.2 Special hazards arising from the substance or mixture

Non-combustible liquid. Ambient fire may liberate hazardous vapors. The following may develop in event of fire: Nitrogen oxides.

5.3 Advice for firefighters

Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

5.4 Further information

Contain escaping vapors with water. Prevent fire-fighting water from entering surface water or ground water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Wear a positive-pressure supplied-air respirator. Shut off leaks if without risk. Keep people away from and upwind of spill/leak. For personal protective equipment see **Section 8**.

6.2 Environmental precautions

Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil, advise police.

6.3 Methods and materials for containment and cleaning up

Spillage: soak up with inert absorbent material (e.g. sand, silica gel or chemical absorbent pads). Prevent liquid entering sewers, basements and workpits. Transfer to covered drums. Dispose of promptly

6.4 Reference to other sections

For disposal see **Section 13**.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Keep container tightly closed. Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.

7.2 Conditions for safe storage, including any incompatibilities

Keep tightly closed in a dry, cool and well-ventilated place. Keep out of direct sunlight. Recommended storage temperature is below +15 - +25 °C. Handle and open container with care.

Storage class 8B (TRGS 510); Non-combustible, corrosive hazardous materials.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

The product should only be used in ventilation hoods and fans.

Individual protection measures (Personal protective equipment, PPE)

Eye/face protection

Goggles giving complete protection to eyes.

Skin protection

Chemical resistant apron / flame retardant antistatic protective clothing, heavy duty work shoes.

Handle with gloves

- Full contact wears gloves from butyl rubber material.
- Splash contact wears gloves from nitrile rubber material.

The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Required when vapor/aerosols are generated filter K (EN 141 or EN 14387).

Environmental exposure controls

Prevent liquid entering sewers, basements and workpits.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Liquid
Color	Colorless
Odour	Pungent
Odour Threshold	Not Available
pH	12 at 100 g/l, H_2O at 20ºC
Melting point/range	-57.5ºC
Boiling point/range	37.7ºC at 1013 hPa
Flash point	Not Available
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Explosion limits: lower	15.4 % (V)
upper	33.6 % (V)
Vapor Pressure	483 hPa at 20ºC
Relative Vapor Density	Not Available
Density	0.903 g/ml at 20ºC
Water solubility	Soluble at 20ºC
Partition coefficient (n-octanol/water)	Not Available
Auto-Ignition temperature	Not Available
Decomposition Temperature	Not Available
Viscosity	Not Available
Explosive properties	Not Explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.

SECTION 10: Stability and reactivity

10.1 Reactivity

Not Available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Risk of explosion in contact with: strong acids, oxidizing agent, mercury, silver compounds, halogens and hypochlorites

The substance can react dangerously with: Strong bases, copper, nickel, tin, zinc, iron and acetaldehyde.

10.4 Conditions to avoid

Heating.

10.5 Incompatible materials

Strong acids, oxidizing agent, mercury, silver compounds, halogens, hypochlorites, strong bases, copper, nickel, tin, zinc, iron and acetaldehyde.

10.6 Hazardous decomposition products

Nitrogen oxides (Hazardous decomposition products from under fire condition).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity

Not Available

Skin corrosion/irritation

Causes severe skin burns

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Not Available

Germ cell mutagenicity

Not Available

Carcinogenicity

Not Available

Reproductive toxicity

Not Available

Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation.

Specific target organ toxicity (STOT) - repeated exposure

Not Available

Aspiration hazard

Not Available

Further information
The product should be handled with the care usual when dealing with chemicals.

SECTION 12: Ecological information

Mixture

12.1 Toxicity

Toxicity to fish	LC_{50} Pimephales promelas: 0.068 mg/l/ 96h
Toxicity to daphnia and other aquatic invertebrates	LC_{50} Daphnia magna: 101 mg/l /48h

12.2 Persistence and degradability

Biodegradability	Not Available

12.3 Bioaccumulative potential

Partition coefficient (n-octanol/water)	Not Available

12.4 Mobility in soil
Not Available

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Very toxic to aquatic life. Do not allow to enter waters, waste water or soil.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Contaminated packaging
Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

SECTION 14: Transport information

Land Transport (ADR/RID)

UN Number	2672
UN proper shipping name	AMMONIA SOLUTION
Transport hazard class(es)	8
Packing group	III
Environmental hazards	Yes
Special precautions for user	Yes

Sea transport (IMDG)

UN Number	2672

UN proper shipping name	AMMONIA SOLUTION
Transport hazard class(es)	8
Packing group	III
Marine pollutant	Yes
Special precautions for user	Yes
EmS	F-A S-B

Air transport (IATA)

UN Number	2672
UN proper shipping name	AMMONIA SOLUTION
Transport hazard class(es)	8
Packing group	III
Environmental hazards	Yes
Special precautions for user	No

River transport (AND/ADNR)
(Not examined)

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Not Available

15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Recommended restrictions
Take notice of labels and safety data sheets for the working.

Reference
Globally Harmonized System of Classification and Labelling of Chemicals (GHS).
Labelling according to EC Directives 67/548 EEC and Regulation (EC) No 1272/2008.
Transportation information according to Recommendations on the Transport of Dangerous Goods, Model Regulations. Twelfth revised edition. United Nations.
Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin/Germany, Source: IFA for Databases on hazardous substances (GESTIS).

Further information
Contact to RCI Labscan Limited.

Revision Date
17/09/2025