Preparing for the New Era of Laboratories

MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

AMMONIA SOLUTION 25% AR

PRODUCT CODE : B-3009

CAS No : 1336-21-6

FORMULA : NH_4OH

UN No : 2672

website : www.labotiq.net

MATERIAL SAFETY DATA SHEET (SDS/MSDS)
AMMONIA SOLUTION 25% AR

MSDS Number : 0029 | Date : Aug 16th, 2024 | Version : 1.0

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

1.1 Product Name : **AMMONIA SOLUTION 25% AR**
Synonyms : Ammonium hydroxide solutions; ammonia aqueous ; ammonia liquor, ammonia water.
CAS No. : 1336-21-6
HS Code : 2814 20 00
Chemical Formula : NH_4OH
Molecular Weight : 35.05 g/mol
Product Code : B-3009
Brand : Labotiq
1.2 Manufacturer : Labotiq
Address : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111
Website : www.labotiq.net
Email : labotiq.id@gmail.com
For information : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710
Emergency number : +6281316894650
1.3 Application : Laboratory chemicals, Manufacture of substances

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Corrosive to metals, Category 1, H290
Skin corrosion, Category 1B, H314
Specific target organ toxicity - single exposure, Category 3, Respiratory system, H335
Acute aquatic toxicity, Category 1, H400

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)	
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.

Precautionary statement(s)
Prevention

P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response	
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P310	IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Reduced labelling (≤125 ml)
Hazard pictograms

Signal word Danger

Hazard statements

H314	Causes severe skin burns and eye damage.

Precautionary statements

P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P310	IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

2.3 Other hazards

None known

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Ammonium hydroxide solutions
Formula	: NH_4OH
Molecular weight	: 35.05 g/mol
CAS-No.	: 1336-21-6

3.2 Mixture

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

Component	Classification	Concentration
Ammonium hydroxide solutions CAS-No. 1336-21-6	Corrosive to metals, Category 1, H290 Skin corrosion, Category 1B, H314 Specific target organ toxicity - single exposure, Category 3, H335 Acute aquatic toxicity, Category 1, H400	<=100 %

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Irritation and corrosion, bronchitis, Cough, Shortness of breath, gastric pain, Unconsciousness, Bloody vomiting, Nausea, collapse, shock, Convulsions, Lung oedema, death Risk of blindness!

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Not combustible. Ammonia solution itself is not flammable, but can form an ignitable ammonia/air-mixture by outgassing. Ambient fire may liberate hazardous vapours. Fire may cause evolution of: nitrogen oxides

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

Cool closed containers exposed to fire with water spray. Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions

Do not empty into drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® OH^-, Merck Art. No. 101596). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Tightly closed.

Storage stability

Recommended storage temperature

2 - 8 °C

May develop pressure. Refrigerate before opening. Handle and open container with care.

Storage class

Storage class (TRGS 510): 8B: 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 control

Appropriat engineering controls

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

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

Full contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740, Size M)

Splash contact

Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: 480 min
Material tested:Dermatril® (KCL 740, Size M)

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use (EN 143) respirator cartridges as a backup to engineering controls. If th full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Form: liquid Colour: colourless
Odour	stinging
Odour Threshold	0,02 - 70,7 ppm Ammonia
pH	at 20 °C strongly alkaline
Melting point/freezingpoint	-57,5 °C
Initial boiling point and boiling range	37,7 °C at 1.013 hPa
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or	Upper explosion limit: 33,6 %(V) Lower explosion limit: 15,4 %(V)
explosive limits	No data available
Vapour pressure	483 hPa at 20 °C
Vapour density	No data available
Relative density	0,903 g/cm³ at 20 °C
Water solubility	at 20 °C soluble
Partition coefficient: noctanol/water	log Pow: -1,38 (experimental) (anhydrous substance) (Lit.) Bioaccumulation is not expected.
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other safety information

Minimum ignition energy	380 - 680 mJ
Corrosion	May be corrosive to metals

SECTION 10: Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

Ammonia solution itself is not flammable, but can form an ignitable ammonia/air-mixture by outgassing.

10.3 Possibility of hazardous reactions

A risk of explosion and/or of toxic gas formation exists with the following substances: Oxidizing agents, Mercury, Oxygen, silver compounds, nitrogen trichloride, hydrogen peroxide, silver, antimony hydride, halogens, Acids, Calcium, Chlorine, Chlorites, auric salts, perchlorates, sodium hypochlorite, mercury compounds, halogen oxides Heavy metals, Heavy metal salts, Acid chlorides, Acid anhydrides Risk of ignition or formation of inflammable gases or vapours with: Boranes, Boron, Oxides of phosphorus, Nitric acid, silicon compounds, chromium(VI) oxide, chromyl chloride Exothermic reaction with: Acetaldehyde, Acrolein, Barium, boron compounds, Bromine, halogen-halogen compounds, hydrogen bromide, silane, Hydrogen chloride gas, halogen compounds, dimethylsulfate, nitrogen oxides, Fluorine, Hydrogen fluoride, chlorates, carbon dioxide Ethylene oxide, polymerisable

10.4 Conditions to avoid

Heating.

10.5 Incompatible materials

Aluminium, Lead, Nickel, silver, Zinc, Copper, metal alloys, various metals

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LDLO human: 43 mg/kg (29% solution) (RTECS)

Symptoms: gastric pain, Bloody vomiting, If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach

Skin corrosion/irritation

Rabbit Result: Severe irritations (29% solution)
(RTECS)

Dermatitis Necrosis

Mixture causes burns.

Serious eye damage/eye irritation

Rabbit
Result: Severe irritations (29% solution)
(RTECS)
Mixture causes serious eye damage. Risk of blindness!

Respiratory or skin sensitisation

This information is not available

Germ cell mutagenicity

This information is not available

Carcinogenicity

This information is not available

Reproductive toxicity

This information is not available

Specific target organ toxicity - single exposure

Mixture may cause respiratory irritation.

Specific target organ toxicity - repeated exposure

This information is not available

Aspiration hazard

This information is not available

Additional Information

Systemic effects: Nausea, collapse, shock, Unconsciousness, Convulsions Lung oedema, Possible effects: death

Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

No information available.

12.2 Persistence and degradability

Biodegradability
Not readily biodegradable.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water
log Pow: -1,38 (experimental) (anhydrous substance) (Lit.)
Bioaccumulation is not expected.

12.4 Mobility in soil

Not expected to adsorb on soil.(Acetonitrile)

12.5 Results of PBT and vPvB assessment

Substance(s) in the mixture do(es) not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII, or a PBT/vPvB assessment was not conducted.

12.6 Other adverse effects

Additional ecological information Biological effects: Harmful effect due to pH shift. Forms toxic and corrosive mixtures with water even if diluted. Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 2672 IMDG: 2672 IATA: 2672

14.2 UN proper shipping name

ADR/RID: AMMONIA SOLUTION
IMDG: AMMONIA SOLUTION
IATA: AMMONIA SOLUTION

14.3 Transport hazard class(es)

ADR/RID: 8 IMDG: 8 IATA: 8

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: yes IMDG Marine pollutant: no IATA: yes

14.6 Special precautions for user

Further information

No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.

National Fire Protection Association (U.S.A.):

Health: 3
Flammability: 0
Reactivity: 0

History

Version : 1.0
Revision Date : August 16, 2024

Further information

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. Labotiq shall not be held liable for any damage resulting from handling or from contact with the above product.

History

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