

SECTION 1: Identification

1.1. Product identifier

Trade name	: AMMONIA SOLUTION 25%
EC-No.	: 215-647-6
EC Index-No.	: 007-001-01-2
CAS-No.	: 1336-21-6
UN-No. (ADR)	: 2672
Product code	: 101070xxx
Formula	: NH ₄ OH

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

Recommended uses and restrictions	: For laboratory use only
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1.3. Supplier's details

Labchem (Pty)Ltd
 6 Wakefield Road
 Founders Hill
 1609 Johannesburg - South Africa
 T +27 11 452 1116 - F +27 86 588 0293
techlab@labchem.co.za - www.labchem.co.za

1.4. Emergency telephone number

Emergency number	: +27 11 452 1116
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Skin corrosion/irritation, Category 1	H314
Hazardous to the aquatic environment — Acute Hazard, Category 1	H400
Full text of H statements	: see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :



GHS05

GHS09

Signal word (GHS-ZA)	: Danger
Hazard statements (GHS-ZA)	: H314 - Causes severe skin burns and eye damage. H400 - Very toxic to aquatic life.
Precautionary statements (GHS-ZA)	: P260 - Do not breathe dust/fume/gas/mist/vapours/spray. P264 - Wash hands, forearms and face thoroughly after handling. 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 or doctor. P321 - Specific treatment (see supplemental first aid instruction on this label). P363 - Wash contaminated clothing before reuse. P391 - Collect spillage. P405 - Store locked up. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

Adverse physicochemical, human health and environmental effects	: Causes severe skin burns and eye damage, Very toxic to aquatic life.
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According to SANS 10234:2008 and SANS 11014:2010

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance identification codes: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
ammonia, solution (Main constituent)	(CAS-No.) 1336-21-6	≥ 25	Skin Corr. 1, H314 Aquatic Acute 1, H400

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact	: Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital. Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a physician immediately.
First-aid measures after eye contact	: Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist. Do not apply neutralizing agents. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Call Poison Information Centre (www.big.be/antigif.html). Immediately consult a doctor/medical service. Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital. Doctor: gastric lavage. Rinse mouth. Do not induce vomiting. Call a physician immediately.

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

Symptoms/effects after inhalation	: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Nausea. Headache. EXPOSURE TO HIGH CONCENTRATIONS: Possible oedema of the upper respiratory tract. Possible inflammation of the respiratory tract. Possible laryngeal spasm/oedema. FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of lung oedema. Risk of pneumonia. Respiratory difficulties.
Symptoms/effects after skin contact	: Caustic burns/corrosion of the skin. Burns.
Symptoms/effects after eye contact	: Corrosion of the eye tissue. Serious damage to eyes.
Symptoms/effects after ingestion	: Burns to the gastric/intestinal mucosa. Possible esophageal perforation. AFTER INGESTION OF HIGH QUANTITIES: Shock. Burns.
Chronic symptoms	: No effects known.
Potential adverse human health effects and symptoms	: Causes severe skin burns. May cause respiratory irritation. Causes serious eye damage.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Quick-acting ABC powder extinguisher. Quick-acting BC powder extinguisher. Quick-acting class B foam extinguisher. Quick-acting CO ₂ extinguisher. Class B foam (alcohol-resistant). Water spray if puddle cannot expand. Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD: Non combustible.
Explosion hazard	: INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".
Hazardous decomposition products in case of fire	: On burning: release of toxic and corrosive gases/vapours (nitrous vapours).

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According to SANS 10234:2008 and SANS 11014:2010

5.3. Advice for firefighters

- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.
- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

- Protective equipment : Gas-tight suit. Corrosion-proof suit.
- Emergency procedures : Ventilate spillage area. Keep upwind. Mark the danger area. Consider evacuation. Close doors and windows of adjacent premises. No naked flames. Keep containers closed. Wash contaminated clothes. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. Compressed air/oxygen apparatus. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

- For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Dilute toxic gases/vapours with water spray. Take account of toxic/corrosive precipitation water. Collect spillage.
- Methods for cleaning up : Take up liquid spill into absorbent material. Take up liquid spill into absorbent material, e.g.: sand/earth or powdered limestone. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.
- Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Exhaust gas must be neutralised. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Use corrosionproof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep container tightly closed. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Wear personal protective equipment.
- Hygiene measures : Observe strict hygiene. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.
- Storage area : Keep container in a well-ventilated place. Keep locked up. Provide for a tub to collect spills. Meet the legal requirements.
- Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources.
- Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. (strong) bases. metals. halogens.
- Special rules on packaging : SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: synthetic material. glass. MATERIAL TO AVOID: aluminium. copper. tin. zinc. nickel. bronze.
- Storage temperature : < 25 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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South Africa - Occupational Exposure Limits (Recommended Limits)

Local name	Ammonia
OEL TWA (mg/m ³)	17 mg/m ³

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According to SANS 10234:2008 and SANS 11014:2010

AMMONIA SOLUTION 25% (1336-21-6)	
OEL TWA (ppm)	25 ppm
OEL STEL (mg/m ³)	24 mg/m ³
OEL STEL (ppm)	35 ppm
Regulatory reference	Government Notice. R: 1179

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Materials for protective clothing : GIVE EXCELLENT RESISTANCE: butyl rubber. neoprene. nitrile rubber. GIVE GOOD RESISTANCE: PVC. tetrafluoroethylene. GIVE LESS RESISTANCE: natural rubber. GIVE POOR RESISTANCE: polyethylene. PVA
Hand protection : Protective gloves against chemicals (EN 374)
Skin and body protection : Head/neck protection. Corrosion-proof clothing
Respiratory protection : Full face mask with filter type K at conc. in air > exposure limit. High vapour/gas concentration: self-contained respirator

Personal protective equipment symbol(s):



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Liquid.
Molecular mass : 35.05 g/mol
Colour : Colourless.
Odour : Irritating/pungent odour.
Odour threshold : No data available
pH : 11.7
pH solution : No data available
Relative evaporation rate (butylacetate=1) : No data available
Relative evaporation rate (ether=1) : No data available
Melting point : -50 °C
Freezing point : No data available
Boiling point : 36 °C
Flash point : Not applicable
Auto-ignition temperature : Not applicable
Decomposition temperature : No data available
Flammability (solid, gas) : Not applicable
Vapour pressure : > 150 hPa (20 °C)
Vapour pressure at 50 °C : No data available
Relative vapour density at 20 °C : No data available
Relative density : 0.9
Relative density of saturated gas/air mixture : No data available
Density : No data available
Relative gas density : No data available
Solubility : Soluble in water.
Water: complete
Partition coefficient n-octanol/water (Log Pow) : No data available
Partition coefficient n-octanol/water (Log Kow) : No data available
Viscosity, kinematic : No data available

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Viscosity, dynamic	: 1.288 mPa·s (26 °C, Literature)
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

VOC content	: Not applicable (inorganic)
Other properties	: Volatile. Basic reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Concentrated solution violent to explosive reaction with many compounds e.g.: with (some) halogens compounds, with (strong) oxidizers and with (some) acids.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

On heating: release of toxic/corrosive/combustible gases/vapours (ammonia).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Causes severe skin burns. pH: 11.7
Serious eye damage/irritation	: Assumed to cause serious eye damage pH: 11.7
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Causes severe skin burns. May cause respiratory irritation. Causes serious eye damage.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Dangerous for the environment. Very toxic to aquatic life.
Ecology - air	: None of the known components is included in the list of substances which may contribute to the greenhouse effect (IPCC). None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Toxic to crustacea. Very toxic to fishes. Groundwater pollutant. Affects the self-cleaning capacity of surface water. Inhibition of activated sludge. May cause eutrophication. pH shift. Very toxic to plankton.
Hazardous to the aquatic environment, short-term (acute)	: Very toxic to aquatic life.

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Hazardous to the aquatic environment, long-term (chronic) : Not classified

12.2. Persistence and degradability

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Persistence and degradability : Biodegradable in the soil. Readily biodegradable in water.

12.3. Bioaccumulative potential

AMMONIA SOLUTION 25% (1336-21-6)

Bioaccumulative potential : Not bioaccumulative.

12.4. Mobility in soil

AMMONIA SOLUTION 25% (1336-21-6)

Mobility in soil : No additional information available

Ecology - soil : No (test)data on mobility of the components available.

12.5. Other adverse effects

Ozone : Not classified

Other adverse effects : No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Use appropriate containment to avoid environmental contamination. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle/reuse. Remove for physico-chemical/biological treatment.

Additional information : Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
2672	2672	2672
14.2. Proper Shipping Name		
AMMONIA SOLUTION	AMMONIA SOLUTION	Ammonia solution
14.3. Transport hazard class(es)		
8	8	8
		 Not applicable
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- SANS

Transport regulations (UN) : Subject to the provisions

Limited quantities (SANS) : 5 L

Limited quantities (SANS) : 5 L

Packagings, large packagings and IBCs : P001, IBC03, LP01

Packing instructions (SANS)

Packagings, large packagings and IBCs Special packing instructions (SANS) : B11

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Portable tank and bulk containers instructions (SANS) : T7

Portable tank and bulk container special provisions (SANS) : TP1

- IMDG

Transport regulations (IMDG) : Subject to the provisions

Limited quantities (IMDG) : 5 L

Excepted quantities (IMDG) : E1

Packing instructions (IMDG) : P001, LP01

IBC packing instructions (IMDG) : IBC03

IBC special provisions (IMDG) : B11

Tank instructions (IMDG) : T7

Tank special provisions (IMDG) : TP2

EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE

EmS-No. (Spillage) : S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES

Stowage category (IMDG) : A

Properties and observations (IMDG) : Colourless liquid with a pungent odour. Corrosive to copper, nickel, zinc and tin and their alloys such as brass. Not significantly corrosive to iron and steel. Reacts violently with acids. Liquid and vapour cause burns to skin, eyes and mucous membranes.

- IATA

Transport regulations (IATA) : Subject to the provisions

PCA Excepted quantities (IATA) : E1

PCA Limited quantities (IATA) : Y841

PCA limited quantity max net quantity (IATA) : 1L

PCA packing instructions (IATA) : 852

PCA max net quantity (IATA) : 5L

CAO packing instructions (IATA) : 856

CAO max net quantity (IATA) : 60L

Special provisions (IATA) : A64, A803

ERG code (IATA) : 8L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

Regulatory reference : SANS 10234:2008; SANS 11014:2010; SANS 10228:2012; SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.

SECTION 16: Other information

Issue date : 07/02/2020

Revision date : 07/02/2025

Full text of H-statements:

H314	Causes severe skin burns and eye damage.
H400	Very toxic to aquatic life.

SDS South Africa

The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is intended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products. This SDS is not a quality specification nor any form of guarantee.