Ammonia 25 weight % solution p.

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878
Issue date: 9/7/2023 Version: 1.0

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

1.1. Product identifier

Product form	:	Mixture
Trade name	:	Ammonia 25 weight % solution p.
EC Index-No.	:	007-001-01-2
EC-No.	:	215-647-6
CAS-No.	:	1336-21-6
REACH registration No.	:	01-2119982985-14
Product code	:	CL00.0103
Type of product	:	Solution
Formula	:	NH4OH
Synonyms	:	alkaline air, conc=25% / ammonia / ammonia hydrate, conc=25% / ammonia, aqua conc=25% / ammonia, aqueous solution / ammonia, caustic, conc=25% / ammonia, in aqueous solution, conc=25% / ammonia, liquor, conc=25% / ammoniawater, conc=25% / ammoniawater, stronger, conc=25% / ammonium hydrate, conc=25% / ammonium hydroxide ((NH4)(OH)) / ammonium hydroxide, aqueous solution, conc=25% / aqua ammonia, solution, conc=25% / household ammonia, conc=25% / liquour ammonia, conc=25% / spirit of hartshorn, conc=25% / water of ammonia, conc=25%
BIG No	:	27502

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Laboratory chemical

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Chem-Lab nv
Industriezone 'De arend 2'
Zedelgem – Belgium
Belgium
T +32 50 288320
info@chem-lab.be - https://www.chem-lab.be

1.4. Emergency telephone number

Emergency number : +32 50 28 83 20

Country	Organisation/Company	Address	Emergency number	Comment
Belgium	Centre Anti-Poisons/Antigifcentrum c/o Hôpital Militaire Reine Astrid	Rue Bruyn 1 1120 Brussels	+32 70 245 245	Please dial: 070 245 245 for any urgent questions about intoxication (free of charge 24/7), if not accessible, dial: 02 264 96 30 (standard fee)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Corrosive to metals, Category 1	H290
Skin corrosion/irritation, Category 1, Sub-Category 1B	H314

Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400

Full text of H- and EUH-statements: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :

GHS05 GHS07 GHS09

Signal word (CLP) : Danger

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

Precautionary statements (CLP) : P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P273 - Avoid release to the environment.
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.
P309+P311 - IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of REACH Annex II

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Observe (own) safety. If possible, approach victim and check vital functions. In case of injury and/or intoxication, call the European emergency number 112. Treat symptoms starting with most life-threatening injuries and disorders. Keep victim under observation, possibility of delayed symptoms.

First-aid measures after inhalation : Remove victim into fresh air. Immediately consult a doctor/medical service.

First-aid measures after skin contact : If possible, wipe up/dry remove chemical. Then rinse/shower immediately for 30 minutes with (lukewarm) water. Cut clothing; never remove burnt clothing from the wound. Do not give any pain medication. Consult a doctor/medical service.

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. Consult a doctor/medical service.

First-aid measures after ingestion : Rinse mouth with water. Immediately consult a doctor/medical service. Do not wait for symptoms to occur to consult Poison Center.

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

Symptoms/effects after inhalation : Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Nausea. Headache. Respiratory difficulties. Coughing. Dry/sore throat. EXPOSURE TO HIGH CONCENTRATIONS: Corrosion of the upper respiratory tract. FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of lung oedema. Possible inflammation of the respiratory tract. Risk of pneumonia. Possible laryngeal spasm/oedema. Possible oedema of the upper respiratory tract.

Symptoms/effects after skin contact : Caustic burns/corrosion of the skin.

Symptoms/effects after eye contact : Corrosion of the eye tissue.

Symptoms/effects after ingestion : AFTER INGESTION OF HIGH QUANTITIES: Burns to the gastric/intestinal mucosa. Possible esophageal perforation. Shock.

Chronic symptoms : No effects known.

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

No additional information available

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 CO2 extinguisher. Class B foam (alcohol-resistant). Water spray if puddle cannot expand.

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 : DIRECT EXPLOSION HAZARD: No direct 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).

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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gas-tight suit (EN 943). Corrosion-proof suit (EN 14605).

Emergency procedures : Keep upwind. Mark the danger area. Consider evacuation. Close doors and windows of adjacent premises. No naked flames. Keep containers closed. Wash contaminated clothes.

6.1.2. For emergency responders

Protective equipment : Self-contained breathing apparatus (EN 136 + EN 137).

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment	:	Contain released product, collect/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.
Methods for cleaning up	:	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.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	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. Clean contaminated clothing. Keep container tightly closed. Use corrosionproof equipment. Do not discharge the waste into the drain.
Hygiene measures	:	Observe strict hygiene.

7.2. Conditions for safe storage, including any incompatibilities

Storage temperature	:	< 25 °C
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.
Storage area	:	Meet the legal requirements. Provide for a tub to collect spills.
Special rules on packaging	:	SPECIAL REQUIREMENTS: closing. 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.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

No additional information available

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No additional information available

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:
Combined eye and respiratory protection

8.2.2.2. Skin protection

Skin and body protection:
Head/neck protection. Corrosion-proof clothing (EN 14605)

Hand protection:
Protective gloves against chemicals (EN 374)

Other skin protection

Materials for protective clothing:
Excellent resistance: Butyl rubber. neoprene (chloroprene rubber). Nitrile rubber. Good resistance: Polyvinylchloride (PVC). Tetrafluoroethylene. Less resistance: Natural rubber. Poor resistance: Polyethylene. Polyvinylalcohol (PVA)

8.2.2.3. Respiratory protection

Respiratory protection:
Full face mask with filter type K. High vapour/gas concentration: self-contained breathing apparatus (EN 136 + EN 137)

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Colour	:	Colourless.
Appearance	:	Liquid.
Molecular mass	:	17.03 g/mol
Odour	:	Irritating/pungent odour.
Odour threshold	:	Not available
Melting point	:	-57 °C
Freezing point	:	Not available
Boiling point	:	38 °C
Flammability	:	>
Explosive properties	:	Not classified.
Oxidising properties	:	Not classified.
Explosive limits	:	15.4 – 33.6 vol %
Lower explosion limit	:	15.4 vol %
Upper explosion limit	:	33.6 vol %
Flash point	:	Not applicable
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available in the literature
pH	:	> 10

Viscosity, kinematic	:	No data available in the literature
Viscosity, dynamic	:	1.288 mPa·s (26 °C, Literature)
Solubility	:	Soluble in water. Water: complete
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Vapour pressure	:	> 150 hPa (20 °C)
Vapour pressure at 50°C	:	Not available
Density	:	0.91 g/ml
Relative density	:	0.9
Relative vapour density at 20°C	:	No data available in the literature
Particle characteristics	:	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Explosion limits	:	15.4 – 33.6 vol %

9.2.2. Other safety characteristics

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 additional information available

10.4. Conditions to avoid

No additional information available

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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	:	Not classified
Acute toxicity (dermal)	:	Not classified
Acute toxicity (inhalation)	:	Not classified
Skin corrosion/irritation	:	Causes severe skin burns. pH: > 10
Serious eye damage/irritation	:	Assumed to cause serious eye damage pH: > 10
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
STOT-single exposure	:	May cause respiratory irritation.

STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

Ammonia 25 weight % solution p. (1336-21-6)	
Viscosity, kinematic	No data available in the literature

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

No additional information available

11.2.2. Other information

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.
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 : 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.
Hazardous to the aquatic environment, long–term (chronic) : Not classified
Not rapidly degradable

12.2. Persistence and degradability

Ammonia 25 weight % solution p. (1336-21-6)	
Persistence and degradability	Biodegradable in the soil. Contains readily biodegradable component(s).

12.3. Bioaccumulative potential

Ammonia 25 weight % solution p. (1336-21-6)	
Bioaccumulative potential	Does not contain bioaccumulative component(s).

12.4. Mobility in soil

Ammonia 25 weight % solution p. (1336-21-6)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the component(s) available.

12.5. Results of PBT and vPvB assessment

Ammonia 25 weight % solution p. (1336-21-6)
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Do not discharge into drains or the environment. Dispose of at authorized waste collection point. 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.

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 ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 2672	UN 2672	UN 2672	UN 2672	UN 2672
14.2. UN proper shipping name				
ammonia solution	ammonia solution	ammonia solution	ammonia solution	ammonia solution
Transport document description				
UN 2672 ammonia solution, 8, III, (E), ENVIRONMENTALLY HAZARDOUS	UN 2672 ammonia solution, 8, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 2672 ammonia solution, 8, III, ENVIRONMENTALLY HAZARDOUS	UN 2672 ammonia solution, 8, III, ENVIRONMENTALLY HAZARDOUS	UN 2672 ammonia solution, 8, III, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)				
8	8	8	8	8
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes
No supplementary information available				

14.6. Special precautions for user

Overland transport

Transport regulations (ADR) : Subject to the provisions

Classification code (ADR) : C5

Hazard identification number (Kemler No.) : 80

Orange plates : 

Tunnel restriction code (ADR) : E

Transport by sea

Transport regulations (IMDG) : Subject to the provisions
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B

Air transport

Transport regulations (IATA) : Subject to the provisions

Inland waterway transport

Classification code (ADN) : C5
Carriage permitted (ADN) : T

Rail transport

Transport regulations (RID) : Subject to the provisions
Classification code (RID) : C5

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

REACH Annex XVII (Restriction List)

Contains no substance(s) listed on REACH Annex XVII (Restriction Conditions)

REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

VOC Directive (2004/42)

VOC content : Not applicable (inorganic)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of H- and EUH-statements:	
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.
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.