Revised on: 14.11.2019
Created on: 14.11.2019

Ammonia solution 25 % pure EP

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name: Ammonia solution 25 % pure EP

Article number: LC-6572

REACH Registration Number: This product is a mixture. REACH Registration Number see section 3.

1.2. Relevant identified uses of the substance or mixture

Identified uses: Pharmaceutical production, Cosmetic raw material

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier:
neoFroxx GmbH
Marie-Curie-Str. 3
D-64683 Einhausen
info@neofroxx.com

Further information obtainable from:
Dep. Quality Control

1.4. Emergency telephone number

+49 (6251) 989 24 - 0 (during normal business hours)

2. Hazards identification

2.1. Classification of the substance or the mixture

Classification (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 (REGULATION (EC) No 1272/2008):

Hazard pictograms:

Signal word:

Danger

Hazard 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.

Precautionary statements:

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.

2.3. Other hazards

None known.

3. Composition / information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Hazardous components (REGULATION (EC) No 1272/2008):

Component (Concentration):

ammonia solution(>= 25 % - < 50 %)

CAS-No.:

1336-21-6

Registration number:

01-2119488876-14-xxxx

Classification:

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

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

4. First aid measures

4.1. Description of first aid measures

General advice:

First aider needs to protect himself.

After inhalation: fresh air. Call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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 information available.

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:

In the event of fire, wear self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

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.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. 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 let product enter drains.

6.3. Methods and material 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. Dispose of properly. Clean up affected area.

6.4. Reference to other sections

Indications about waste treatment see section 13.

7. Handling and storage

7.1. Precautions for safe handling:

Advice on safe handling:

Observe label precautions.

Hygiene measures:

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2. Conditions for safe storage, including any incompatibilities:

Requirements for storage areas and containers:

No metal or light-weight-metal containers.

Storage conditions:

Tightly closed.

Recommended storage temperature see product label.

7.3. Specific end use(s)

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

8. Exposure controls / personal protection

8.1. Control parameters

Derived No Effect Level (DNEL):

ammonia solution (1336-21-6)

Worker DNEL, acute	Systemic effects	dermal	6,8 mg/kg Body weight
Worker DNEL, longterm	Systemic effects	dermal	6,8 mg/kg Body weight
Worker DNEL, acute	Systemic effects	inhalation	47,6 mg/m³
Worker DNEL, acute	Local effects	inhalation	36 mg/m³
Worker DNEL, longterm	Systemic effects	inhalation	47,6 mg/m³
Worker DNEL, longterm	Local effects	inhalation	14 mg/m³
Consumer DNEL, acute	Systemic effects	dermal	68 mg/kg Body weight
Consumer DNEL, longterm	Systemic effects	dermal	68 mg/kg Body weight
Consumer DNEL, acute	Systemic effects	inhalation	23,8 mg/m³
Consumer DNEL, acute	Local effects	inhalation	7,2 mg/m³
Consumer DNEL, longterm	Systemic effects	inhalation	23,8 mg/m³
Consumer DNEL, longterm	Local effects	inhalation	2,8 mg/m³
Consumer DNEL, acute	Systemic effects	oral	6,8 mg/kg Body weight
Consumer DNEL, longterm	Systemic effects	oral	6,8 mg/kg Body weight

Predicted No Effect Concentration (PNEC):

ammonia solution (1336-21-6)

PNEC Fresh water	0,0011 mg/l
PNEC Aquatic intermittent release	0,0068 mg/l
PNEC Marine water	0,00011 mg/l

8.2. Exposure controls

Engineering measures:

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

See section 7.1.

Individual protection measures:

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection:

Tightly fitting safety goggles

Hand protection:

full contact:

Glove material: butyl-rubber
Glove thickness: 0,7 mm
Break through time: > 480 min

splash contact:

Glove material: Nitrile rubber
Glove thickness: 0,40 mm
Break through time: > 240 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 898 Butoject® (full contact), KCL 730 Camatril® -Velours (splash contact).
The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.
This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment:

protective clothing

Respiratory protection:

required when vapours/aerosols are generated.
Recommended Filter type: Filter K (acc. to DIN 3181) for NH_3
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls:

Do not let product enter drains.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form: liquid
Colour: colourless
Odour: stinging
Odour Threshold: 0,02 - 70,7 ppm Ammonia
pH: at 20 °C strongly alkaline
Melting point: -57,5 °C
Boiling point/boiling range: 37,7 °C at 1.013 hPa
Flash point: No information available.
Evaporation rate: No information available.
Flammability (solid, gas): No information available.
Lower explosion limit: 15,4 %(V)
Upper explosion limit: 33,6 %(V)
Vapour pressure: 483 hPa at 20 °C
Relative vapour density: No information available.

Density: 0,903 g/cm3 at 20 °C
Relative density: No information available.
Water solubility: at 20 °C soluble
Partition coefficient: n-octanol/water: log Pow: -1,38
(experimental)
(anhydrous substance) (Lit.) Bioaccumulation is not expected.
Auto-ignition temperature: No information available.
Decomposition temperature: No information available.
Viscosity, dynamic: No information available.
Explosive properties: Not classified as explosive.
Oxidizing properties: none

9.2. Other data
Minimum ignition energy: 380 - 680 mJ
Corrosion: May be corrosive to metals.

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.

11. Toxicological information

11.1. Information on toxicological effects

Mixture

Acute oral 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.

Acute inhalation toxicity:

Symptoms: mucosal irritations, Cough, Shortness of breath, bronchitis, Possible damages:, damage of respiratory tract

Acute dermal toxicity:

This information is not available.

Skin irritation:

Rabbit

Result: Severe irritations

(29% solution) (RTECS)

Dermatitis Necrosis

Mixture causes burns.

Eye irritation:

Rabbit

Result: Severe irritations

(29% solution) (RTECS)

Mixture causes serious eye damage. Risk of blindness!

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.

Teratogenicity:

This information is not available.

Specific target organ toxicity - single exposure:

Mixture may cause respiratory irritation.

Target Organs: Respiratory system

Specific target organ toxicity - repeated exposure:

This information is not available.

Aspiration hazard:

This information is not available.

11.2. Further 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.

Components:

ammonia solution

No information available.

12. Ecological information

Mixture

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
no information available.

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.

13. Disposal considerations

13.1. Waste treatment methods
Recommendation:

Chemicals must be disposed of in compliance with the respective national regulations.

Recommendation:

Disposal must be made according to official regulations.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

14. Transport information

Land transport (ADR/RID):

14.1 UN number	UN 2672
14.2 Proper shipping name	AMMONIA SOLUTION
14.3 Class	8
14.4 Packing group	III
14.5 Environmentally hazardous	yes
14.6 Special precautions for user	yes
Tunnel restriction code	E

Inland waterway transport (ADN):

Not relevant	Air transport (IATA)
14.1 UN number	UN 2672
14.2 Proper shipping name	AMMONIA SOLUTION
14.3 Class	8
14.4 Packing group	III
14.5 Environmentally hazardous	yes
14.6 Special precautions for user	no

Sea transport (IMDG):

14.1 UN number	UN 2672
14.2 Proper shipping name	AMMONIA SOLUTION
14.3 Class	8
14.4 Packing group	III
14.5 Environmentally hazardous	yes
14.6 Special precautions for user	yes
EmS	F-A S-B

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

Not relevant

15. Regulatory information

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

EU regulations

Major Accident Hazard Legislation:

SEVESO III

ENVIRONMENTAL HAZARDS

E1

Quantity 1: 100 t

Quantity 2: 200 t

Occupational restrictions:

Take note of Dir 94/33/EC on the protection of young people at work.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:

not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC:

not regulated

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Substances of very high concern (SVHC):
This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of ≥ 0.1 % (w/w).
National legislation:
Storage class: 8B

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

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.
Training advice:
Provide adequate information, instruction and training for operators.
Labelling:
Signal word:
Danger
Hazard 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.
Precautionary statements:
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.

Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

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