

SAFETY DATA SHEET

Version 8.4
Revision Date 01.10.2021
Print Date 02.10.2021

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

1.1 Product identifiers

Product name : Ammonia solution 25% for analysis
EMSURE® ISO, Reag. Ph Eur

Product Number : 1.05432
Catalogue No. : 105432
Brand : Millipore

1.2 Other means of identification

No data available

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

Identified uses : Reagent for analysis, Chemical production

1.4 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Pty. Ltd.
Suite 1, Level 1, Building B
11 Talavera Road
MACQUARIE PARK NSW 2113
AUSTRALIA

Telephone : +61 1800 800 097

1.5 Emergency telephone

Emergency Phone # : Free call (24/7): 1800 448 465
Int'l (24/7): +61 2 9037 2994
(CHEMTREC)

SECTION 2: Hazards identification

2.1 GHS Classification

Skin corrosion/irritation (Category 1), H314
Serious eye damage/eye irritation (Category 1), H318
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Short-term (acute) aquatic hazard (Category 1), H400
Long-term (chronic) aquatic hazard (Category 2), H411

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

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word : Danger

Hazard statement(s)

H314 : Causes severe skin burns and eye damage.
H335 : May cause respiratory irritation.

H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
Prevention	
P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264	Wash skin thoroughly after handling.
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.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P391	Collect spillage.
Storage	
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards - none

SECTION 3: Composition/information on ingredients

Substance / Mixture : Mixture

3.2 Mixtures

Hazardous ingredients

Component	Classification	Concentration
ammonia solution		
CAS-No. 1336-21-6	1B; 1; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 2; H314, H318, H335, H400, H411 Concentration limits: >= 5 %: STOT SE 3, H335; M-Factor - Aquatic Acute: 10	>= 25 - < 30 %
EC-No. 215-647-6		
Index-No. 007-001-01-2		

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

First aiders need to protect themselves.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

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

In case of eye contact

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

If swallowed

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

Nitrogen oxides (NO_x)
Not combustible.

5.3 Advice 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/vapors/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 vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.
For personal protection 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

Observe label precautions.

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

No metal or light-weight-metal containers.

Tightly closed.

Recommended storage temperature see product label.

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 1.3 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
ammonia solution	1336-21-6	PEL (long term)	25 ppm 17 mg/m ³	Singapore. Workplace Safety and Health Act - First Schedule Permissible Exposure Limits of Toxic Substances
		PEL (short term)	35 ppm 24 mg/m ³	Singapore. Workplace Safety and Health Act - First Schedule Permissible Exposure Limits of Toxic Substances

8.2 Exposure controls

Appropriate engineering controls

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

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles

Skin protection

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).

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Butoject® (KCL 898)

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).

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.40 mm

Break through time: 240 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

Body Protection

protective clothing

Respiratory protection

required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not empty into drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|---|--|
| a) Appearance | Form: liquid
Color: colorless |
| b) Odor | stinging |
| c) Odor Threshold | 0.02 - 70.7 ppm - Ammonia |
| d) pH | at 20 °C
strongly alkaline |
| e) Melting point/freezing point | Melting point: -57.5 °C |
| f) Initial boiling point and boiling range | 37.7 °C at 1,013 hPa |
| g) Flash point | No data available |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | Upper explosion limit: 33.6 %(V)
Lower explosion limit: 15.4 %(V) |

k)	Vapor pressure	483 hPa at 20 °C
l)	Vapor density	No data available
m)	Density	0.903 g/cm ³ at 20 °C
	Relative density	No data available
n)	Water solubility	at 20 °C soluble
o)	Partition coefficient: n-octanol/water	log Pow: -1.38 - (anhydrous substance), (Lit.), Bioaccumulation is not expected.
p)	Autoignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: No data available
s)	Explosive properties	Not classified as explosive.
t)	Oxidizing properties	none

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

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

Aluminum, 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

Mixture

Acute toxicity

Oral: No data available

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

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Severe irritations

Remarks: (29% solution)

(RTECS)

Dermatitis Necrosis

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Severe irritations

Remarks: (29% solution)

(RTECS)

Mixture causes serious eye damage. Risk of blindness!

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Mixture may cause respiratory irritation. - Respiratory system

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Cough

Shortness of breath

bronchitis

gastric pain

Bloody vomiting

Nausea

collapse

shock

Unconsciousness

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components**ammonia solution****Acute toxicity**

Oral: No data available

Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Dermal: No data available

Skin corrosion/irritation

Causes skin burns.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

SECTION 12: Ecological information**12.1 Toxicity****Mixture**

No data available

12.2 Persistence and degradability

Biodegradability Remarks: No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

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.

No data available

Components**ammonia solution**

Toxicity to fish

flow-through test LC50 - Pimephales promelas (fathead minnow) - 0.068 mg/l - 96 h

Remarks: (in analogy to similar products) (ECHA)

The value is given in analogy to the following substances: ammonium sulphate

Toxicity to daphnia and other aquatic invertebrates

static test LC50 - Daphnia magna (Water flea) - 101 mg/l - 48 h

Remarks: (ECHA) anhydrous

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

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.