

SYSTEM

SAFETY DATA SHEET

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

Product name: Ammonia solution 25%

Name and address of Supplier: Classic Chemicals Sdn Bhd
19,Jalan Penerbit U1/43,
Temasya Industrial Park,
40150 Shah Alam,Selangor

Emergency telephone no.: 603-58916680

2. Hazards identification

Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements
Skin corrosion, category 1B	H314
Specific target organ toxicity (single exposure), category 3, vascular	H335
Hazardous to the aquatic environment, acute, category 1	H400



Signal word Danger

Hazard Statements	
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.

Precautionary statements	
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+P310	IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

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3. Composition/information on ingredients

Product name: Ammonium hydroxide solution

CAS-No.:	1336-21-6
Molar mass:	17.03
Molecular formula:	NH ₄ OH
EC No.:	215-647-6
Index no.:	007-001-01-2
Other means of identification	

4. First aid measures

After inhalation: Remove from exposure, rest and keep warm. In severe cases obtain medical attention.

After skin contact: Wash off skin thoroughly with water. Remove contaminated clothing and wash before re-use. Unless contact has been slight, obtain medical attention.

After eye contact: Irrigate thoroughly with water for at least 10 minutes. Obtain medical attention.

After ingestion: Wash out mouth thoroughly with water and give plenty of water to drink. Obtain medical attention.

5. Fire-fighting measures

Suitable extinguishing media:
To suit environment.

Special risks:
Combustible vapours
May evolve toxic fumes in fire.

6. Accidental release measures

Wear appropriate protective clothing. Inform others to keep at a safe distance.

If local regulations permit, mop up with plenty of water and run to waste, diluting greatly with running water. Otherwise transfer to container and arrange removal by disposal company. Wash site of spillage thoroughly with detergent and water.

For large spillages liquids should be contained with sand or earth and both liquids and solids transferred to salvage container. Any residues should be treated as for small spillages.

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7. Handling and storage

Handling:

Cool to 0°C before opening. Do not breathe fumes.

Storage:

Store in a cool place (below 15°C). Keep well closed and protected from direct sunlight and moisture.

8. Exposure controls/personal protection

Engineering methods to control or prevent exposure are preferred. Methods could include process enclosure or mechanical ventilation.

As appropriate to the situation and the quantity handled.

Respiratory protection: self-contained breathing apparatus

Ventilation: Fume cupboard

Eye protection: Goggles or face-shield

Glove protection: rubber gloves or plastic

Other Precautions: Plastic apron, sleeves, boots – if handling large quantities

9. Physical and chemical properties

Form:		liquid
Colour:		colourless
Odour:		pungent
pH value		14
Melting temperature		<-57.5 °C
Boiling temperature		no data
Ignition temperature		no data
Flash point		no data
Explosion limits	lower	15.4% (ammonia)
	upper	33.6% (ammonia)
Vapour pressure	(0°C)	330 mmHg
Vapour density		0.6
Density	(20°C)	0.88 - 0.91 g/ml
Solubility in water	(20°C)	Miscible in all proportions

10. Stability and reactivity

Stable

Unsuitable working materials: various metals (zinc, copper), metal alloys.

Substances to be avoided

bases (Formation of ammonia), iodine, strong acids, oxidizing agent.

The possibility of reaction with other substances cannot be excluded.

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11. Toxicological information

After inhalation: severe irritant effects, coughing, bronchitis, pulmonary oedema.
When vapours/aerosols are generated: strong irritant effect.
After skin contact: irritant and caustic effects, dermatitis, necrosis.
After eye contact: burns. Risk of blindness!
After ingestion: mucosal irritations, gastric pain, nausea, bloody vomiting, collapse, shock, dyspnoea, unconsciousness. Risk of perforation in the oesophagus and stomach.

Odour threshold: $\sim 3.6 \text{ mg/m}^3$ (5 ppm) (ammonia)

Further data

LD₅₀: 350 mg/kg oral, rat.

LC₅₀: 1.4 mg/l inhalation, rat. (ammonia)

LOAEL: 36 mg/m^3 (50 ppm) (ammonia)

No evidence of carcinogenic properties: No evidence of mutagenic or teratogenic effects.

12. Ecological information

Low bioaccumulation potential.

Daphnia toxicity: Daphnia magna EC₅₀: 24mg/l/48h

Bacterial toxicity: EC₅₀ 2mg/l/5min (Photobacterium phosphoreum)

The following applies to ammonium ions in general: biological effects: fish: toxic as from 0.3 mg/l up; plankton: toxic 0.3 mg/l up.

Harmful effect to pH shift. Caustic even in diluted form.

Do not allow to enter drinking waters supplies, waste water, or soil!

13. Disposal considerations

Chemical residues are generally classified as special waste, and as such are covered by regulations which vary according to location. Contact your local waste disposal authority for advice, or pass to a chemical disposal company. Rinse out empty containers thoroughly before returning for recycling.

14. Transport information

Transport over land ADR/RID

ADR/RID class: 8

Name of material: AMMONIA SOLUTION

Sea transport IMDG

IMDG class: 8 UN-No.: 2672 Packaging group: III

Correct technical name: AMMONIA SOLUTION

Air transport ICAO-TI and IATA-DGR

ICAO/IATA class: 8 UN/ID-No.: 2672 Packaging group: III

Correct technical name: AMMONIA SOLUTION

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15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
Water hazard class (WGK) 2

Chemical Safety Assessment
No data available

16. Other information

Signal word Danger

Hazard Statements

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Revision Date: 01 Jan 2019

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.