



SAFETY DATA SHEET

1. IDENTIFICATION OF THE PREPARATION AND OF THE COMPANY

Catalogue No. : A 11679
Product Name : Ammonia solution

Manufacturer / supplier identification

Company : NICE Chemicals (P) Ltd. , Cochin , India
Tel - 0484 2800212 , 2802755

Contact For Information : Tel . No. – 0484 2802536 Fax : 0484 2802483
Emergency Telephone No. : 0484 2801583 Telefax No. : 0484 2802483

2. COMPOSITION / INFORMATION ON INGREDIENTS

Synonyms : ammonium hydroxide solution.
CAS-No : 1336-21-6
Ec-Index No. : 007-001-01-2
EC-No. : 215-647-6

3. HAZARDS IDENTIFICATION : causes burns. Very toxic to aquatic organisms.

4. FIRST AID MEASURES

After inhalation : fresh air. Summon doctor.

After skin contact: wash off with plenty of water .Remove contaminated clothing. Dab with polyethylene glycol 400.

After eye contact: rinse out with plenty of water if pain persists consult an eye specialist

After swallowing: make victim drink plenty of water . avoid vomiting.

Immediately summon doctor. Do not attempt to neutralize.



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5. FIRE – FIGHTING MEASURES

Suitable extinguishing media : In adaption to materials stored in immediate neighbourhood.

Special risks : Non combustible Development of hazardous combustion gases or vapours possible in the event of fire.

The following may develop in event of fire: nitrogen oxides.

Special protective equipment for fire fighting: Do not stay in dangerous zone without self contained breathing apparatus.

Other information: Cool container water. Contain escaping vapours with water. Prevent fire fighting water from entering surface water or ground water.

6. ACCIDENTAL RELEASE MEASURES

Procedures for cleaning / absorption :

Take up with liquid absorbent material. Forward for disposal.

Clean up affected area.

Person – related precautionary measures:

Do not inhale vapours/ aerosols. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.

Environmental protection measures: Do not allow to enter sewage system.

Additional notes: render harmless: neutralize with dilute sulphuric acid.

7. Handling and Storage

Handling : No further requirements.

Storage : Tightly closed Dry .In a well ventilated place.



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Below +25⁰ C. (temperature may be exceeded to up to +40⁰ C for a period of max 48 hours.). Ensure supply of fresh air in enclosed rooms.

8. EXPOSURE CONTROLS /PERSONAL PROTECTION

Personal protective equipment

Respiratory protection : required when vapours/ aerosols are generated .

Eye protection : required

Hand protection : required

Protective clothing should be selected for the working place depending on concentration and quantity of the hazardous substance handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Industrial hygiene : Change contaminated clothing . Application of skin protective barrier cream recommended . Wash hands after working with substance .

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	Liquid
Colour	:	Colourless
Odour	:	Pungent.
PH value (20 ⁰ C)	:	Strongly alkaline.
Melting temperature	:	-91.5 ⁰ C
Boiling temperature	:	24.7 ⁰ C
Ignition temperature	:	Not available
Flash point	:	Not available
Explosion limits lower	:	Not available
Upper	:	Not available



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Density (20⁰ C) : 0.88 g/cm³
Solubility in water (20⁰C) : Soluble

10. STABILITY AND REACTIVITY

Conditions to be avoided : Heating.
Substance to be avoided : Alkalis (formation of ammonia), iodine, strong acids, halogens, mercury oxide, silver.
Hazardous decomposition products : No information available.
Further information : incompatible with various metals and metal alloys (zinc, copper);
Explosible with air in a vaporous/ gaseous state when heated .

11. TOXICOLOGICAL INFORMATION

Acute toxicity: LD₅₀ (oral, rat): 350 mg/Kg
LC₅₀ (inhalation, rat): 1.4 mg/l/4h; LDLo (inhalation, human): 5000ppm(V).

The literature data available to us do not conform with the labelling prescribed by the EC. The EC has dossiers which have not been published

Subacute to chronic toxicity: Sensitization test (guinea pig): negative.
An embryotoxic effect need not be feared when the threshold limit value is observed.
No mutagenic properties suspected. No carcinogenic properties suspected.
Bacterial mutagenicity : Salmonella typhimurium : negative.
Escherichia coli: negative.

Further toxicological information : After inhalation: possible symptoms: coughing, bronchitis, pulmonary oedema.
When vapours/ aerosols are generated: strong irritant effect..



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After skin contact: Possible effect after contact with substance : irritant and caustic effects (dermatitis, necrosis).

After eye contact: burns, risk of blindness!

After swallowing: nausea, gastric pain, mucosal irritations, bloody vomiting, collapse, shock, dyspnoea, unconsciousness. Risk of perforation in the oesophagus and stomach.

Further data: This substance should be handled with usual care when dealing with chemicals.

12. ECOLOGICAL INFORMATION

Abiotic degradation : Slow degradation .

Biologic degradation: not readily degradable

Behaviour in environmental compartments:

No bio accumulation is to be expected ($\log p(o/w) < 1$).

Ecotoxic effects: Biologic effects:

Toxic for aquatic organisms . Harmful effect due to pH shift . Forms toxic mixtures in water, dilution measures notwithstanding.

Fish toxicity: *Onchorhynchus mykiss* LC_{50} : 0.53mg/l/96h;

Daphnia toxicity: *daphnia pulicaria* EC_{50} : 1.16mg/l/48h;

daphnia magna EC_{50} : 24mg/l/48h;

Bacterial toxicity: *Ps.putida* EC_5 : 30mg/l;

Photobacterium phosphoreum EC_{50} : 2 mg/l/5min;

Further ecologic data : The following applies to ammonium ions in general; biological effects: fish : toxic as from 0.3 mg/l; nourishment for fish: toxic as from 0.3 mg/l. Do not allow to enter waters, waste water or soil.



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13. DISPOSAL METHOD

There are no uniform EC regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding laws and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste.

Disposal in compliance with official Regulations. Handle contaminated packaging as in the same way as the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

14. TRANSPORT INFORMATION

Transport over land

ADR/RID and GGVS/GGVE : GGVS/GGVE class: 8 Number and letter: 43c

ADR/RID class : 8 Number and letter: 43c

Name of material : AMMONIA SOLUTION

River transport AND/ADNR: Not examined

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

Ems : 8-06 MFAG: 725

Correct technical name: AMMONIA SOLUTION

Air transport

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

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15. REGULATORY INFORMATION

Labelling according to EC Directives

Symbol : C Corrosive
N Dangerous for the environment.

R- Phrases : 34-50 Causes burns. Very toxic to aquatic organisms.

S-phrases : 26-36/37/39-45-61 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/ face protection. In case of accident or if you feel unwell, seek medical advice immediately. Avoid release to the environment.

Water pollution class : 2 (polluting substance)

16. OTHER INFORMATION

Reason for alteration

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