



Safety Data Sheet

Date of Issue: 18.11.2024

Date of Expiry: 18.11.2029

1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name : ECP Limited
Address : PO Box 34125, Birkenhead, Auckland 0746
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Emergency phone number : 0800 243 622 (24 hours)

Product Name	Ammonium Hydroxide 28%
Product Code	11801
CAS No.	1336-21-6

Recommended use : Laboratory Investigations

2: Hazard's identification

GHS Classification

Corrosive to Metals (Category 1)
Acute toxicity, Oral (Category 4)
Skin corrosion/irritation (Category 1C)
Serious eye damage/eye irritation (Category 1)
Specific target organ toxicity - single exposure (Category 3), Respiratory system
Hazardous to the aquatic environment - acute hazard (Category 1)
Hazardous to the aquatic environment - chronic hazard (Category 2)

GHS Label elements, including precautionary statements

Pictogram



Danger

Hazard statement(s)

H290 May be corrosive to metals.
H302 Harmful if swallowed.
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

P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated

clothing. Rinse skin with water.

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.

Other hazards - Lachrymator.

3: Composition/information on ingredients

Mixtures

Formula : H5NO
Molecular weight : 35.05 g/mol
CAS-No. : 1336-21-6
EC-No : 215-647-6
Index-No. : 007-001-01-2

Component	Classification	Concentration
Ammonium Solution		
		>= 28 - < 30 %

4: First aid measures

Description of first-aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

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.

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

5: Firefighting measures

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.

Special hazards arising from the substance or mixture

Nitrogen oxides (NO_x)

Not combustible.

Ambient fire may liberate hazardous vapours.

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.

Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6: Accidental release measures**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.

Environmental precautions

Do not let product enter drains.

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. Dispose of properly. Clean up affected area.

Reference to other sections

For disposal see section 13.

7: Handling and storage**Precautions for safe handling****Advice on safe handling**

Avoid contact with skin and eyes. Always open containers slowly to allow any excess pressure to vent.

Hygiene measures

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

For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities**Storage conditions**

Tightly closed.

Storage stability

Recommended storage temperature

2 - 8 °C

May develop pressure. Refrigerate before opening. Handle and open container with care.

Storage class

Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

Specific end use(s)

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

8: Exposure controls/personal protection

Control parameters

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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

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards.

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type or respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

Control of environmental exposure

Do not let product enter drains.

9: Physical and chemical properties

Information on basic physical and chemical properties

a) Physical state	:	liquid
b) Color	:	colourless
c) Odor	:	No data available
d) Melting point/freezing point	:	-60 °C
e) Initial boiling point and boiling range	:	38 - 100 °C at 1,013 hPa
f) Flammability (solid, gas)	:	No data available
g) Upper/lower flammability or explosive limits	:	
Upper explosion limit	:	27 %(V)
Lower explosion limit	:	16 %(V)
h) Flash point	:	Not applicable
i) Autoignition temperature	:	Not applicable
j) Decomposition temperature	:	No data available
k) pH	:	11.7 at 20 °C
l) Viscosity	:	
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available

m) Water solubility at 20 °C	:	soluble
n) Partition coefficient: n-octanol/water	:	No data available
o) Vapor pressure	:	153 hPa at 20 °C
p) Density	:	0.9 g/cm ³ at 25 °C - lit.
Relative density	:	No data available
q) Relative vapor density	:	No data available
r) Particle characteristics	:	No data available
s) Explosive properties	:	Not classified as explosive.
t) Oxidizing properties	:	none

Other safety information

Relative vapor density	:	1.21 - (Air = 1.0)
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10: Stability and reactivity

Chemical stability

Stable under normal pressures and cool temperatures.

Possibility of hazardous reactions

Reacts violently in contact with acids and oxidising agents. Reacts violently or forms explosive products in contact with halogens, interhalogens or halides. May form explosive compounds in contact with metal halides, silver compounds or mercury. Can cause ethylene oxide to polymerise explosively.

Conditions to avoid

Exposure to heat and light.

Incompatible materials

Acids, alkalis (could form ammonia), acrolein antimony hydride/heat, various alloys (zinc, copper), boron, carbon dioxide, chromyl chloride, dimethylsulfate, ethylene oxide, halogens, hydrogen sulfide, halides, hydrogen bromide, hydrochloric acid, hydrogen fluoride, hydrogen peroxide, interhalogens, iodine, metal halides, mercury/water, various metals, metal salts (chromium VI oxide), nitrogen oxides, nitric acid, oxidising agents, oxygen, phosgene, phosphorus oxides, sulfur dioxide, silver compounds (during storage),

Hazardous decomposition products

Ammonia, nitrogen oxides.

11: Toxicological information

Toxicology Information

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. If mishandled or overexposed to this product the following symptoms or effects may occur.

Ingestion

Harmful if swallowed. Causes severe burns and pain in the throat, chest and abdomen along with mucosal irritations, gastric pain, nausea, coughing, bloody vomiting, dyspnoea, collapse, shock and unconsciousness. Risk of perforation in the oesophagus and stomach.

Inhalation

Toxic if inhaled. May cause severe respiratory tract irritation. Causes irritations of the mucous membranes, coughing and dyspnoea bronchitis, pulmonary oedema. When vapours/aerosols are generated causes strong irritant effect. Brief exposure at 5,000 ppm may cause rapid death due to suffocation or fluid in the lungs.

Skin

Causes burns, irritations. May cause irritant and caustic effects (dermatitis, necrosis).

Eye

Causes burns. Risk of blindness. Vapour may cause irritation. Liquid may cause severe irritation, haemorrhage, swollen eyelids and partial or total blindness.

Respiratory Sensitisation

Not classified based on available information.

Skin Sensitisation

Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive Toxicity

Not classified based on available information.

STOT-Single exposure

Not classified based on available information.

STOT-Repeated exposure

Not classified based on available information.

Chronic effects

Repeated exposure to gas may cause long-term irritation of the eyes, nose and upper respiratory tract. May cause chemical pneumonitis and kidney damage.

Workers repeatedly exposed to ammonia may develop a tolerance to the irritating effects after several weeks.

Serious eye damage / irritation

Severe irritation (29% solution, rabbit).

Mutagenicity

Not classified based on available information.

Skin corrosion/irritation

Severe irritation (29% solution, rabbit).

12: Ecological information**Ecotoxicity**

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

Persistence and Degradability

Abiotic degradation: slow degradation.

Biologic degradation: not readily degradable.

Environmental Fate

Behaviour in environmental compartments:

Distribution: log P (o/w): -1.38.

Bioaccumulate Potential

No bioaccumulation is to be expected (log P(o/w) <1.0).

Environmental Protection

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

Acute Toxicity – Fish

LC50 (Onchorhynchus mykiss): 0.53 mg/l/96 h.

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

Acute Toxicity – Daphnia

EC50 (Daphnia pulicaria): 1.16 mg/l/48 h.

EC50 (Daphnia magna): 24 mg/l/48 h.

Acute Toxicity – Bacteria

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

13: Disposal considerations**Disposal Considerations**

Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

14: Transport Information Table

		ADR/RID – European packaging certification	IMDG International Maritime Dangerous Goods Code	IATA – DGR International Air Travel Association – Dangerous Goods Regulations
14.1	UN Number	2672	2672	2672
14.2	UN Proper Shipping name	AMMONIA SOLUTION	AMMONIA SOLUTION	Ammonia solution
14.3	Transport Hazard Class	8	8	8
14.4	Packaging group	III	III	III
14.5	Environmental Hazards	Yes	Yes	No
14.6	Special precautions for user	none		

Other regulations :

Hazchem Code : 2X

15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

HSNO approval number: HSR001526

HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits Group Standard 2006

Tracking Required: not required

Approved Handler Cert.: not required

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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