

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name



ECP LTD *e***cp**

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Product	Ammonia Hydroxide			Code	AM0256
CAS#	HSNO#	UN #	DG Class/es	Packing group #	
1336-21-6 7664-41-7	HSR002596	2672	8	III	

Recommended use: Laboratory Investigations

2. Hazards Identification

2.1 GHS Classification

Acute toxicity, Oral (Category D)
Skin corrosion (Category A)
Serious eye damage (Category A)
Aquatic toxicity (Acute or Chronic) (Category A)
NZ:-
6.1 C; 8.2 B; 8.3 A; 9.1 A

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word **Danger**

Hazard statement(s)

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H400 Very toxic to aquatic life.

Precautionary statement(s)

Prevention

P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/ physician.

P363 Wash contaminated clothing before reuse.

P391 Collect spillage.

Storage

P405 Store locked up.

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

Lachrymator.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Name	CAS	Proportion
	Ammonium hydroxide	1336-21-6	30-60 %
	Ingredients determined not to be hazardous		Balance
	Ammonia	7664-41-7	10-30 %

4. FIRST AID MEASURES

Inhalation	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing. Seek immediate medical attention.
Ingestion	Do NOT induce vomiting. Wash out mouth with water and give plenty of water to drink. Seek immediate medical attention.
Skin	Wash affected area thoroughly with water. Remove contaminated clothing and wash before reuse or discard. Seek immediate medical attention.
Eye	If contact with the eye(s) occurs, wash with copious amounts of water holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Seek immediate medical attention.
First Aid Facilities	Eye wash station, safety shower and normal washroom facilities.
Advice to Doctor	Treat symptomatically. For advice, contact a Poisons Information Centre (Phone eg Australia 131 126; New Zealand Phone 0800 POISON (0800-764-766)).

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Use appropriate fire extinguisher for surrounding environment.
Hazards from Combustion Products	Under fire conditions this product may emit toxic and/or irritating fumes including ammonia and nitrogen oxides.
Special Protective Equipment for fire fighters	Fire-fighters should wear full protective clothing and self contained breathing apparatus (SCBA) operated in positive pressure mode.
Specific Methods	Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapours away from fire.
Specific Hazards	Flammable vapours may accumulate in confined spaces.
Hazchem Code	2R

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures	Wear appropriate personal protective equipment and clothing to avoid inhalation, skin or eye contact. Extinguish or remove all sources of ignition and stop leak if safe to do so. Increase ventilation. Evacuate all unnecessary personnel. If possible contain the spill. Place inert absorbent material onto spillage. Use clean non-sparking tools to collect the material and place into a suitable labelled container. Do not dilute material but contain. Dispose of waste according to federal, Environmental Protection Authority and state regulations. Do not flush spill residue to drains or waterways. If the spillage enters the waterways contact the Environmental Protection Authority, or your local Waste Management Authority.
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7. HANDLING AND STORAGE

Precautions for Safe Handling	Use in a well ventilated area. DO NOT store or use in confined spaces. Build up of mists or vapours in the atmosphere must be prevented. Avoid breathing in spray or mists or vapours. Avoid skin or eye contact. Do not use near welding or other ignition sources and avoid sparks. Do not smoke. When dealing with this product, exposure without protection should be prevented in order to lessen the possibility of disorders. It is essential that all who come into contact with this material maintain high standards of personal hygiene ie. Washing hands prior to eating, drinking, smoking or using toilet facilities.
Conditions for Safe Storage	Store in a cool, dry well-ventilated area away from heat, sources of ignition, incompatibles and out of direct sunlight. Keep containers closed when not in use and securely sealed and protected against physical damage. Inspect regularly for deficiencies such as damage or leaks. Do NOT pressurise, cut, heat or weld containers as they may contain hazardous residues.
Corrosiveness	Corrosive. Strongly alkaline.
Storage Temperatures	< 25°C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

National Exposure Standards	Name	STEL (mgm3)	STEL (ppm)	TWA (mgm3)	TWA (ppm)	FootNote
	Ammonia	24	35	17	25	
Biological Limit Values	No biological limit allocated.					
Other Exposure Information	<p>No exposure standards have been established for this material by the Australian National Occupational Health & Safety Commission (NOHSC) or the Occupational Safety and Health Service (OSH) of the New Zealand Department of Labour.). However, exposure standards for ingredients are stated:</p> <p>As published by the National Occupational Health and Safety Commission (NOHSC): As published by the New Zealand Occupational Safety and Health Service (OSH): TWA - the Time-Weighted Average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life. STEL (Short Term Exposure Limit) - the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday. According to current knowledge these concentrations should neither impair the health of, nor cause undue discomfort to, nearly all workers.</p>					
Engineering Controls	Provide sufficient ventilation to keep airborne levels below the exposure limit. Where vapours or mists are generated, particularly in enclosed areas, and natural ventilation is inadequate, a local exhaust ventilation system is required.					
Respiratory Protection	If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against airborne contaminants. Final choice of appropriate breathing protection is dependant upon actual airborne concentrations and the type of breathing protection required will vary according to individual circumstances. Expert advice may be required to make this decision. Reference should be made to Australian Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.					
Eye Protection	Safety glasses with side shields, goggles or full-face shield as appropriate recommended. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337 - Eye Protectors for Industrial Applications.					
Hand Protection	Wear gloves of impervious material such as neoprene or nitrile rubber. Final choice of appropriate gloves will vary according to individual circumstances i.e. methods of handling or according to risk assessments undertaken. Reference should be made to AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance.					
Body Protection	Suitable work wear should be worn to protect personal clothing, eg cotton overalls buttoned at neck and wrist. When large quantities are handled the use of plastic aprons and rubber boots is recommended. Industrial clothing should conform to the specifications detailed in AS/NZS 2919: Industrial clothing.					

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance Clear, colourless liquid.

Odour Ammonia odour.

Melting Point	- 72°C
Boiling Point	ca. 36°C
Solubility in Water	Infinetly soluble.
Specific Gravity	0.9
pH Value	13.8 (29% solution)
Vapour Pressure	115 mmHg @ 20°C (10% solution). 580 mmHg @ 20°C (28% solution).
Vapour Density (Air=1)	0.60
Flash Point	Not applicable
Auto-Ignition Temperature	651°C
Flammable Limits - Lower	16%
Flammable Limits - Upper	25%

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal use conditions.
Conditions to Avoid	Heat, direct sunlight, open flames or other sources of ignition.
Incompatible Materials	Acids, acrolein, dimethyl sulfate, silver nitrate, halogens, dimethyl sulfate, propylene oxide, nitromethane, silver oxide, silver permanganate, oleum, beta-propiolactone. Most common metals.
Hazardous Decomposition Products	Ammonia and nitrogen oxides.
Hazardous Reactions	Will react with incompatibles.
Hazardous Polymerization	Will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information	Acute toxicity (Ammonium hydroxide). LD50 ORAL (rat): 350 mg/kg EYE (rabbit) standard draize: 250 ug, severe. LC50 INHALATION (rat): 2000 ppm/4hr
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Inhalation	Toxic by inhalation. Inhalation of product vapours will cause irritation of the nose, throat and respiratory system and brief exposure to 500 ppm can be fatal.
Ingestion	Toxic if swallowed. Ingestion of this product will irritate the gastric tract causing nausea and vomiting and may be fatal. Ingestion of this product may cause abdominal pain and chemical burns to the mouth, throat and stomach.
Skin	Skin contact will cause redness, itching, irritation, severe pain and chemical burns with resultant tissue destruction.
Eye	Eye contact will cause stinging, blurring, tearing, severe pain and possible permanent corneal damage.
Chronic Effects	Repeated exposure may cause damage to the tissues of the mucous membranes, upper respiratory tract, eyes and skin. Persons with pre-existing eye disorders or impaired respiratory function may be more susceptible to the effects of this material.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Very toxic to aquatic organisms.
Persistence / Degradability	Not available.
Mobility	Not available.
Bioaccumulative Potential	Not expected to significantly bioaccumulate.
Environment Protection	Do not allow product to enter drains, waterways or sewers.
Acute Toxicity - Fish	LC50 (rainbow trout) 24hr: 0.008 mg/L LC50 (fathead minnow) 96hr: 8.2 mg/L LC50 (Bluegill) 48hr: 0.024 mg/L EC50 (Water flea) 48hr: 0.66 mg/L

13. DISPOSAL CONSIDERATIONS

Waste Disposal	Dispose of waste according to federal, EPA and state regulations.
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14. TRANSPORT INFORMATION

Transport Information	<p>Australia:</p> <p>This material is classified as a Class 8 (Corrosive) Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. Dangerous goods of Class 8 (Corrosive) are incompatible in a placard load with any of the following:</p> <ul style="list-style-type: none"> - Class 1, Explosive - Class 4.3, Dangerous When Wet Substance
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- Class 5.1, Oxidising Agent
 - Class 5.2, Organic Peroxide
 - Class 6, Toxic and Infectious Substances, if the Class 6 dangerous goods are cyanides and the Class 8 dangerous goods are acids
 - Class 7, Radioactive Substance
- and are incompatible with food and food packaging in any quantity.

New Zealand:

This material is classified as a Class 8 - Corrosive Substance according to NZS 5433:1999 Transport of Dangerous Goods on Land.

Must not be loaded in the same freight container or on the same vehicle with:

- Class 1, Explosives
- Class 5.1, Oxidising substances
- Class 5.2, Organic peroxides
- Class 7, Radioactive materials unless specifically exempted

And are incompatible with food and food packaging in any quantity.

Note 1; Cyanides (Class 6.1) must not be loaded in the same freight container or on the same vehicle with acids (Class 8).

Note 2; Strong acids must not be loaded in the same freight container or on the same vehicle with strong alkalis. Packing Group I and II acids and alkalis should be considered as strong.

Must not be loaded with in the same freight container; and on the same vehicle must be separated horizontally by at least 3 metres unless all but one are packed in separate freight containers with:

- Class 4.3, Dangerous when wet substances

Goods of packing group II or III may be loaded in the same freight container or on the same vehicle if transported in segregation devices with:

- Class 4.3, Dangerous when wet substances
- Class 5.1, Oxidising substances
- Class 5.2, Organic peroxides

And are incompatible with food and food packaging in any quantity.

U.N. Number	2672
Proper Shipping Name	AMMONIA SOLUTION
DG Class	8
Hazchem Code	2R
Packaging Method	3.8.8RT7
Packing Group	III
EPG Number	8A1
IERG Number	37

15. REGULATORY INFORMATION

Regulatory Information	<p>Australia:</p> <p>Classified as hazardous according to criteria of National Occupational Health & Safety Commission (NOHSC).</p> <p>Poison Schedule: Schedule 6</p>
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New Zealand:
Scheduled as Standard Poison S3 according to the Toxic Substances Regulations 1983.

Poisons Schedule S6

S6 New Zealand:S3

Hazard Category Toxic,Corrosive,Dangerous for the environment

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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