

# Safety Data Sheet

AQUAPAC

Water Treatment & Specialty Chemicals

## Hazardous Chemical, Dangerous Goods

### 1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: **Ammonium Hydroxide 23% TO 30%**

#### Synonyms

Ammonia Aqua; Ammonia Solution; Ammonia Water; AMMONIUM HYDROXIDE; Ammonium Hydroxide (Nh4oh); Ammonium Liquor; Aqueous Ammonia

#### Product Code

**Recommended use:** Cleaning compounds; Water treatment; Photographic developer; Manufacture of ammonium compounds.

**Supplier:** Aquapac Pty Ltd  
**ABN:** 36 114 118 311  
**Street Address:** 88 Lee Holm Road  
St Marys NSW 2760  
**Telephone:** 02 9673 1192  
**Facsimile:** 02 9673 1193

**Emergency Telephone number:** 1800 HELP

### 2. HAZARDS IDENTIFICATION

This material is hazardous according to health criteria of Safe Work Australia.



#### Signal Word

Danger

#### Hazard Classifications

Skin Corrosion/Irritation - Category 1C

Specific Target Organ Toxicity (Single Exposure) - Category 3 Respiratory Tract Irritation

Acute Hazard to the Aquatic Environment - Category 1

#### Hazard Statements

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

#### Prevention Precautionary Statements

P102 Keep out of reach of children.  
P103 Read label before use.  
P260 Do not breathe dust, fume, gas, mist, vapours or spray.  
P261 Avoid breathing dust, fume, gas, mist, vapours or spray..  
P264 Wash hands, face and all exposed skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P273 Avoid release to the environment.  
P280 Wear protective clothing, gloves, eye/face protection and suitable respirator.

#### Response Precautionary Statements

P101 If medical advice is needed, have product container or label at hand.

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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.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P321	Specific treatment (see product label).
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.

## Storage Precautionary Statements

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

## Disposal Precautionary Statement

P501	Dispose of contents/container in accordance with local, regional, national and international regulations.
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## Poison Schedule:

## DANGEROUS GOOD CLASSIFICATION

Classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

**Dangerous Goods Class:** 8

## 3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO	PROPORTION
Ammonium hydroxide	1336-21-6	23-30 % (w/w)
Water	7732-18-5	BALANCE %
Ingredients determined to be Non-Hazardous		Balance

## 4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

**Inhalation:** Remove victim from exposure to fresh air - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm and at rest. If patient finds breathing difficult, ensure airways are clear, and have qualified person give oxygen through a face mask. Seek immediate medical advice.

**Skin Contact:** Remove contaminated clothing. Flush affected area with plenty of water. If swelling, redness, blistering or irritation develops, seek immediate medical assistance. Wash clothing before reuse. For skin burns, immediately flood burnt area with plenty of water and cover with a clean dry dressing.

**Eye contact:** Immediately flush eyes with copious amounts of water holding eyelids open. Seek immediate medical attention. Immediate action is critical to minimize possibility of blindness.

**Ingestion:** Immediately rinse mouth with water and give plenty of water to drink provided person is conscious. Do NOT induce vomiting. Seek immediate medical attention

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**Notes to physician:** Treat symptomatically. Can cause corneal burns. Treat symptomatically based on judgement of doctor and individual reactions of patient. If exposure has been severe and/or symptoms marked, observation in hospital for 48 hours should be considered due to the possibility of delayed pulmonary oedema.

## 5. FIRE FIGHTING MEASURES

**Hazchem Code:** 2R

**Suitable extinguishing media:** If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

**Specific hazards:** Non-combustible material.

**Fire fighting further advice:** Not applicable.

## 6. ACCIDENTAL RELEASE MEASURES

### SMALL SPILLS

Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours or dust. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal.

### LARGE SPILLS

Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.

**Dangerous Goods – Initial Emergency Response Guide No:** 37

## 7. HANDLING AND STORAGE

**Handling:** Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols.

**Storage:** Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Store locked up. Keep container standing upright. Keep containers closed when not in use - check regularly for leaks.

This material is classified as a Class 8 Corrosive as per the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and/or the "New Zealand NZS5433: Transport of Dangerous Goods on Land" and must be stored in accordance with the relevant regulations.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**National occupational exposure limits:** No value assigned for this specific material by Safe Work Australia.

**Biological Limit Values:** As per the "National Model Regulations for the Control of Workplace Hazardous Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

**National occupational exposure limits:** Natural ventilation should be adequate under normal use conditions..

**Personal Protection Equipment:** SAFETY SHOES, GLOVES, SAFETY GLASSES.

Wear safety shoes, gloves, safety glasses. Available information suggests that gloves made from nitrile rubber,

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polyvinyl chloride (PVC) should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

**Hygiene measures:** Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols. Ensure that eyewash stations and safety showers are close to the workstation location.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Form:</b>	Clear Liquid
<b>Colour:</b>	Colourless can be turbid
<b>Odour:</b>	Pungent irritating
<b>Solubility:</b>	Soluble
<b>Solubility in water:</b>	Miscible
<b>Specific Gravity (20 °C):</b>	0.88-0.98
<b>Relative Vapour Density (air=1):</b>	6.39-10.5 mmHg
<b>Melting Point/Range (°C):</b>	-58
<b>Boiling Point/Range (°C):</b>	18-37C
<b>pH:</b>	11.7 (1% solution)

(Typical values only - consult specification sheet)  
 N Av = Not available, N App = Not applicable

## 10. STABILITY AND REACTIVITY

**Chemical stability:** Stable under normal conditions of use, storage, and temperature. Corrosive

**Conditions to avoid:** Avoid excessive heat, direct sunlight, moisture, static discharges, and high temperatures.

**Incompatible materials:** Incompatible with strong acids, oxidising agents, active metals, mercury, hypochlorite, halogens, silver salts, acrolein, dimethyl sulfate, propylene oxide, nitromethane, silver oxide, silver permanganate, silver nitrate, oleum, beta-propiolactone, and most common metals.

**Hazardous decomposition products:** Concentrations of flammable ammonia gas can accumulate in the headspace of containers. Flammable ammonia is liberated at all temperatures and can be explosive between 16-25% in air. Autoignition of ammonia in air is 780C creating nitrogen, water, nitrogen dioxide and ammonium nitrate. At 450C ammonia decomposes into flammable hydrogen gas. Concentrated mineral acids will cause instant boiling and possible explosion. May form explosive materials in contact with mercury, halogens, and hypochlorites. Contact with some metals (such as aluminium), may liberate potentially explosive hydrogen gas. Burning may produce ammonia and nitrogen oxides.

**Hazardous reactions:** No hazardous polymerisation.

## 11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

### Acute Effects

**Inhalation:** Causes burns. Irritating to respiratory system. Corrosive. Overexposure may result in mucous membrane irritation of the nose and throat with coughing and bronchitis. At high levels, ulceration of the respiratory tract, lung damage, chemical pneumonitis, and pulmonary oedema. Inhalation of high vapour

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concentration may cause severe breathing difficulties, chest pain, and lung damage including pulmonary oedema and possibly death. Brief exposure to 5000ppm can be fatal

**Skin contact:** Causes burns. Highly corrosive. Contact may result in severe irritation, ulceration and burns with dermatitis. Prolonged contact may result in severe slow healing burns.

**Ingestion:** Extremely corrosive to mouth and throat, causing burns to the mucous membranes. Symptoms may include nausea, vomiting, and abdominal pain. May also cause corrosion to the oesophagus and stomach with perforation and peritonitis. Other symptoms may include pain in the mouth, chest, and abdomen with coughing, vomiting and collapse. Ingestion of as little as 3-4mL may be fatal. Large doses may result in ulceration, unconsciousness, convulsions and death.

**Eye contact:** Causes burns. Risk of serious eye damage. Highly corrosive - severe irritant. Contact may result in pain, lacrimation, redness, conjunctivitis, corneal burns and ulceration with possible permanent damage. Prolonged contact may cause permanent eye damage, which may lead to permanent blindness.

## Acute toxicity

**Inhalation:** This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >20 mg/L

LC50 (Rat): 2000ppm/4hr

**Skin contact:** This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >2,000 mg/Kg

**Ingestion:** This material has been classified as non-hazardous. Acute toxicity estimate (based on ingredients): >2,000 mg/Kg

LD50 (Rat): 350mg/kg

**Corrosion/Irritancy:** Eye: this material has been classified as not corrosive or irritating to eyes. Skin: this material has been classified as a Category 1C Hazard (irreversible effects to skin).

**Sensitisation:** Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as not a skin sensitiser.

**Aspiration hazard:** This material has been classified as non-hazardous.

**Specific target organ toxicity (single exposure):** This material has been classified as a Category 3 Hazard. Exposure via inhalation may result in respiratory irritation.

## Chronic Toxicity

**Mutagenicity:** This material has been classified as non-hazardous.

**Carcinogenicity:** This material has been classified as non-hazardous.

**Reproductive toxicity (including via lactation):** This material has been classified as non-hazardous.

**Specific target organ toxicity (repeat exposure):** This material has been classified as non-hazardous.

## 12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

**Acute aquatic hazard:** This material has been classified as a Category Acute 1 Hazard. Acute toxicity estimate (based on ingredients): <1 mg/L

24hr EC50 (rainbow trout): <1mg/L

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48hr EC50 (Daphnia magna): <1mg/L  
96hr EC50 (bluegill sunfish): 0.024mg/L  
96hr EC50 (fathead minnow): 8.2mg/L  
96hr EC50 (rainbow trout): 0.53g/L

**Long-term aquatic hazard:** This material has been classified as non-hazardous. Non-rapidly or rapidly degradable substance for which there are adequate chronic toxicity data available OR in the absence of chronic toxicity data, Acute toxicity estimate (based on ingredients): >100 mg/L, where the substance is not rapidly degradable and/or BCF < 500 and/or log K<sub>ow</sub> < 4.

**Ecotoxicity:** No information available.

**Persistence and degradability:** The product is readily biodegradable. Ammonia is strongly absorbed by the soil and will washout of the air by rain.

**Bioaccumulative potential:** Risk of bioaccumulation in an aquatic species is low.

**Mobility:** No information available on mobility. Soluble in water. Nitrogen fertilisers may contain or form nitrate which can contaminate the surface and groundwater.

## 13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

## 14. TRANSPORT INFORMATION

### ROAD AND RAIL TRANSPORT

Classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".



**UN No:** 2672  
**Dangerous Goods Class:** 8  
**Packing Group:** III  
**Hazchem Code:** 2R  
**Emergency Response Guide No:** 37

**Proper Shipping Name:** AMMONIA SOLUTION

**Segregation Dangerous Goods:** Not to be loaded with explosives (Class 1), dangerous when wet substances (Class 4.3), oxidising agents (Class 5.1), organic peroxides (Class 5.2), radioactive substances (Class 7) or food and food packaging in any quantity. Note 1: Concentrated strong alkalis are incompatible with concentrated strong acids. Note 2: Concentrated strong acids are incompatible with concentrated strong alkalis. Note 3: Acids are incompatible with Dangerous Goods of Class 6 which are cyanides. Exemptions may apply.

### MARINE TRANSPORT

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

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**UN No:** 2672  
**Dangerous Goods Class:** 8  
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## AIR TRANSPORT

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.



**UN No:** 2672  
**Dangerous Goods Class:** 8  
**Packing Group:** III  
**Proper Shipping Name:** AMMONIA SOLUTION

## 15. REGULATORY INFORMATION

### This material is not subject to the following international agreements:

Montreal Protocol (Ozone depleting substances)  
The Stockholm Convention (Persistent Organic Pollutants)  
The Rotterdam Convention (Prior Informed Consent)  
Basel Convention (Hazardous Waste)  
International Convention for the Prevention of Pollution from Ships (MARPOL)

## 16. OTHER INFORMATION

Reason for issue: Format change

This information was prepared in good faith from the best information available at the time of issue. It is based on the present level of research and to this extent we believe it is accurate. However, no guarantee of accuracy is made or implied and since conditions of use are beyond our control, all information relevant to usage is offered without warranty. The manufacturer will not be held responsible for any unauthorised use of this information or for any modified or altered versions.

If you are an employer it is your duty to tell your employees, and any others that may be affected, of any hazards described in this sheet and of any precautions that should be taken.

Safety Data Sheets are updated frequently. Please ensure you have a current copy.