

## 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

**Product identifier:**

**Product name:** Ammonia Solution, > 25%  
**Synonyms; trade names:** Ammonium Hydroxide Solution, Aqueous Ammonia, Ammonia Liquor  
**REACH registration number:** 01-2119488876-14  
**CAS number:** 1336-21-6  
**EC number:** 215-647-6

**Relevant identified uses of the substance or mixture and uses advised against:**

**Identified uses:** Water treatment. Fertiliser ingredient Coatings Photochemical agents Laboratory agent.  
Washing and cleaning products Fillers Putties Paint. Cosmetics Refrigerant. Paint thinner.  
Paint remover. Leather treatment. Flue gas scrubber pH regulating agent

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## 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture:**

**Classification (EC 1272/2008):**

**Physical hazards:** Not Classified  
**Health hazards:** Skin Corr. 1B - H314 STOT SE 3 - H335  
**Environmental hazards:** Aquatic Acute 1 - H400  
**Classification (67/548/EEC or 1999/45/EC):** C;R34. Xi;R37. N;R50.

**Label elements:**

**EC number:** 215-647-6

[cont...]

**Pictogram:**



**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:**

P260 Do not breathe vapour/ spray.  
 P261 Avoid breathing vapour/ spray.  
 P264 Wash contaminated skin thoroughly after handling.  
 P271 Use only outdoors or in a well-ventilated area.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
 P304+P340 IF INHALED: Remove person to fresh air and keep 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/ doctor.  
 P312 Call a POISON CENTER/ doctor if you feel unwell.  
 P321 Specific treatment (see medical advice on this label).  
 P363 Wash contaminated clothing before reuse.  
 P391 Collect spillage.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.  
 P501 Dispose of contents/ container in accordance with national regulations.

**Contains:**

AMMONIA ...%

**Supplementary precautionary statements:** P260 Do not breathe vapour/ spray.

P264 Wash contaminated skin thoroughly after handling.  
 P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P391 Collect spillage.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.

**Other hazards:**

[cont...]

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Mixtures:****AMMONIA ...%** **30-60%**

CAS number: 1336-21-6

EC number: 215-647-6

M factor (Acute) = 1

**Classification:**

Skin Corr. 1B - H314

STOT SE 3 - H335

Aquatic Acute 1 - H400

**Classification (67/548/EEC or 1999/45/EC):**

C;R34 N;R50

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

### 4. FIRST AID MEASURES

**Description of first aid measures:**

- Inhalation:** Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Keep affected person warm and at rest. Get medical attention immediately. If breathing stops, provide artificial respiration.
- Ingestion:** Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if any discomfort continues.
- Skin contact:** Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention immediately.
- Eye contact:** Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

**Most important symptoms and effects, both acute and delayed:**

- Inhalation:** Irritation of nose, throat and airway. Pulmonary oedema (excessive liquid in the lungs) can occur after inhalation of higher amounts.
- Ingestion:** Causes severe damage to gastrointestinal tract.
- Skin contact:** May cause serious chemical burns to the skin.
- Eye contact:** Irritation of eyes and mucous membranes.

**Indication of any immediate medical attention and special treatment needed:**

- Notes for the doctor:** After treatment keep patient under observation for 48 hours, as delayed pulmonary oedema may develop. Burns should be treated as thermal burns.

**5. FIRE-FIGHTING MEASURES****Extinguishing media:**

**Suitable extinguishing media:** Use fire-extinguishing media suitable for the surrounding fire.

**Special hazards arising from the substance or mixture:**

**Specific hazards:** Containers can burst violently when heated, due to excess pressure build-up. The product is non-combustible. Corrosive gases or vapours.

**Advice for firefighters:**

**Protective actions during firefighting:** Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures:**

**Personal precautions:** Wear protective clothing as described in Section 8 of this safety data sheet.

**Environmental precautions:** Prevent further spillage if safe to do so. Avoid the spillage or runoff entering drains, sewers or watercourses. Do not discharge into drains or watercourses or onto the ground.

**Methods and material for containment and cleaning up:**

**Methods for cleaning up:** Small Spillages: Wash to trade effluent with large quantities of water. Avoid the spillage or runoff entering drains, sewers or watercourses. Large Spillages: No smoking, sparks, flames or other sources of ignition near spillage. Stop leak if possible without risk. Dam spillage with earth, sand, or other non-combustible material. Avoid the spillage or runoff entering drains, sewers or watercourses. Collect spillage for reclamation or disposal in sealed containers via a licensed waste contractor. Consider using foam to control the release of ammonia gas. Never use acids to neutralise this substance.

**Reference to other sections:****7. HANDLING AND STORAGE****Precautions for safe handling:**

**Usage precautions:** Avoid spilling. Avoid contact with skin and eyes. Provide adequate ventilation. Do not use compressed air for filling or discharging operations.

**Conditions for safe storage, including any incompatibilities:**

**Storage precautions:** Suitable container materials: Mild steel. Polyethylene or polypropylene. Stainless steel. Glass. Keep away from heat and direct sunlight. Store under well-ventilated conditions at a temperature below 25°C.

**Specific end use(s):**

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Control parameters:**

**Exposure controls:**

**Protective equipment:**



**Appropriate engineering controls:** Provide adequate ventilation. Avoid inhalation of vapours. Observe any occupational exposure limits for the product or ingredients.

**Eye/face protection:** Wear tight-fitting, chemical splash goggles or face shield.

**Hand protection:** Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.

**Other skin and body protection:** Wear chemical protective suit.

**Respiratory protection:** If ventilation is inadequate, suitable respiratory protection must be worn.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties:**

<b>Appearance:</b>	Clear liquid.
<b>Colour:</b>	Colourless.
<b>Odour:</b>	Pungent. Ammonia.
<b>pH:</b>	pH (concentrated solution): 14
<b>Melting point:</b>	-94°C
<b>Initial boiling point and range:</b>	37°C @
<b>Vapour pressure:</b>	115000 Pa @ °C
<b>Relative density:</b>	0.884 @ 15.5°C
<b>Solubility(ies):</b>	Completely soluble in water.
<b>Auto-ignition temperature:</b>	650°C
<b>Other information:</b>	
<b>Molecular weight:</b>	35

## 10. STABILITY AND REACTIVITY

**Reactivity:** The following materials may react violently with the product: Acids.

**Chemical stability:**

**Stability:** Stable at normal ambient temperatures. Avoid the following conditions: Heat, sparks, flames.

**Possibility of hazardous reactions:**

**Conditions to avoid:** Conditions to avoid Heating evolves significant ammonia gas.

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**Incompatible materials:**

**Materials to avoid:** Strong acids. Risk of explosion with mercury, cadmium, silver, halogens, nitric acid, nitrogen oxides, or hypochlorites. Corrodes or dissolves copper, cadmium, zinc, tin, and their alloys.

**Hazardous decomposition products:** Ammonia or amines. Nitrous gases (NO<sub>x</sub>)

**11. TOXICOLOGICAL INFORMATION**

**Information on toxicological effects:**

**Acute toxicity – oral:**

**Acute toxicity oral (LD<sub>50</sub> mg/kg):** 350.0

**Species:** Rat

**Inhalation:** Pulmonary oedema (excessive liquid in lungs) can occur after inhalation of higher amounts.

**Ingestion:** May cause severe internal injury. May cause chemical burns in mouth, oesophagus and stomach.

**Skin contact:** Can cause burns by repeated / prolonged exposure.

**Eye contact:** May cause severe eye irritation.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity:** The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

**Toxicity:**

**Acute toxicity – fish:** LC<sub>50</sub>, 96 hours: < 1 mg/l, Algae

**Acute toxicity - aquatic invertebrates:** EC<sub>50</sub>, 48 hours: 123 - 189 mg/l, Daphnia magna

**Persistence and degradability:** The product is readily biodegradable.

**Bioaccumulative potential:** The product is not bioaccumulating.

**Mobility in soil:**

**Mobility:** The product is miscible with water. May spread in water systems.

**Results of PBT and vPvB assessment:**

**Other adverse effects:**

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods:**

**Disposal methods:** Reuse or recycle products wherever possible.

[cont...]

**14. TRANSPORT INFORMATION****UN number:**

UN No. (ADR/RID): 2672

UN No. (IMDG): 2672

UN No. (ICAO): 2672

**UN proper shipping name:**

Proper shipping name (ADR/RID): AMMONIA SOLUTION

Proper shipping name (IMDG): AMMONIA SOLUTION

Proper shipping name (ICAO): AMMONIA SOLUTION

Proper shipping name (ADN): AMMONIA SOLUTION

**Transport hazard class(es):****Transport labels:****Packing group:**

ADR/RID packing group: III

IMDG packing group: III

ICAO packing group: III

**Environmental hazards:****Environmentally hazardous substance/marine pollutant:****Special precautions for user:**

Emergency Action Code: 2R

**Transport in bulk according to Annex II of MARPOL and the IBC Code:****15. REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture:****Chemical safety assessment:** No chemical safety assessment has been carried out.**Note:**

The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions. [cont...]

**16. OTHER INFORMATION****Risk phrases in full:**

R34 Causes burns.  
R37 Irritating to respiratory system.  
R50 Very toxic to aquatic organisms.

**Hazard statements in full:**

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

**Legal disclaimer:**

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.