SAFETY DATA SHEET
Ammonia Solution, > 25%

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. 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

1.2. 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

1.3. Details of the supplier of the safety data sheet

Supplier

Industrial Chemicals Limited
Hogg Lane
Grays
Essex
RM17 5DU
United Kingdom
T:+44 (0)1375 389000
F:+44 (0)1375 389110
sds@icgl.co.uk

1.4. Emergency telephone number

Emergency telephone +44 (0)1865 407333 (24-hour)

SECTION 2: Hazards identification

2.1. 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.

2.2. Label elements

EC number 215-647-6

Ammonia Solution, > 25%

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.

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Ammonia Solution, > 25%

AMMONIA ...%		**30-60%**
CAS number: 1336-21-6	EC number: 215-647-6	
M factor (Acute) = 1		

Classification	**Classification (67/548/EEC or 1999/45/EC)**
Skin Corr. 1B - H314 STOT SE 3 - H335 Aquatic Acute 1 - H400	C;R34 N;R50

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

SECTION 4: First aid measures

4.1. 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.

4.2. 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.

4.3. 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.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

5.2. 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.

5.3. 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.

Ammonia Solution, > 25%

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

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.

6.3. 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.

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. 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.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

8.2. 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.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance Clear liquid.

Ammonia Solution, > 25%

Colour	Colourless.
Odour	Pungent. Ammonia.
pH	pH (concentrated solution): 14
Melting point	-94°C
Initial boiling point and range	37°C @
Vapour pressure	115000 Pa @ °C
Relative density	0.884 @ 15.5°C
Solubility(ies)	Completely soluble in water.
Auto-ignition temperature	650°C

9.2. Other information

Molecular weight	35

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Conditions to avoid	Heating evolves significant ammonia gas.

10.5. 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.

10.6. Hazardous decomposition products

Hazardous decomposition products	Ammonia or amines. Nitrous gases (NOx).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Acute toxicity oral (LD_{50} 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.

SECTION 12: Ecological Information

Ammonia Solution, > 25%

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

12.1. Toxicity

Acute toxicity - fish LC_{50}, 96 hours: < 1 mg/l, Algae

Acute toxicity - aquatic invertebrates EC_{50}, 48 hours: 123 - 189 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability The product is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product is not bioaccumulating.

12.4. Mobility in soil

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

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Reuse or recycle products wherever possible.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 2672

UN No. (IMDG) 2672

UN No. (ICAO) 2672

14.2. 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

14.3. Transport hazard class(es)

Transport labels

14.4. Packing group

ADR/RID packing group III

IMDG packing group III

ICAO packing group III

14.5. Environmental hazards

Ammonia Solution, > 25%

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

Emergency Action Code 2R

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision comments	Updated Section(s) 1,
Issued by	D.Kelly
Revision date	06/04/2017
Revision	3
Supersedes date	31/03/2014
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.