SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 *Product identifiers*

Product name: **AMMONIA SOLUTION**

CAS-No.: **1336-21-6**

Product Number: **A65778**

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

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 *Details of the supplier of the safety data sheet*

Company : Philip Harris Ltd., 2 Gregory Street, Hyde, Cheshire, SK14 4HR, UNITED KINGDOM

Telephone: +44 (0)845 1200 506 Fax: +44 (0)161 367 2140

Email: enquiries@philipharris.co.uk

1.4 *Emergency telephone number*

Emergency Phone #: **+44 (0)845 1200 506**

2. HAZARDS IDENTIFICATION

2.1 *Classification of the substance or mixture*

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Skin corrosion (Category 1B); Acute aquatic toxicity (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Causes burns. Very toxic to aquatic organisms.

2.2 *Label elements*

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram 

Signal word **DANGER**

Hazard statement(s)

H314 Causes severe skin burns and eye damage.

H400 Very toxic to aquatic life.

Precautionary statement(s)

P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
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.
Supplemental Hazard Statements none

According to European Directive 67/548/EEC as amended.
Hazard symbol(s)

R-phrase(s)
R34 Causes burns.
R50 Very toxic to aquatic organisms.

S-phrase(s)
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

2.3 Other hazards
Lachrymator.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 *Substances*

Ammonia water *(synonyms: Ammonia aqueous)*

Formula: NH_3

Molecular Weight: **17.03g/mol**

Component Concentration: -

CAS-No.: **1336-21-6**

EC-No.: **215-647-6**

3.2 *Mixtures*

Component	Classification	Concentration
Ammonium hydroxide	C, N, R34 - R50	>= 57.6 - <=61.7 %
Water	-	>= 38.3 - <=42.4 %

4. FIRST AID MEASURES

4.1 *Description of first aid measures*

General advice:

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled:

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact:

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact:

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed:

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. (Ammonium hydroxide)

4.3 *Indication of immediate medical attention and special treatment needed*

no data available

5. FIRE-FIGHTING MEASURES

5.1 *Extinguishing media*

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 *Special hazards arising from the substance or mixture*

nitrogen oxides (NOx)

5.3 *Precautions for fire-fighters*

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 *Further information*

no data available

6. ACCIDENTAL RELEASE MEASURES

6.1 *Personal precautions, protective equipment and emergency procedures*

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

6.2 *Environmental precautions*

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 *Methods and materials for containment and cleaning up*

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 *Reference to other sections*

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 *Precautions for safe handling*

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

7.2 *Conditions for safe storage, including any incompatibilities*

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 *Specific end uses*

no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 *Control parameters*

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 *Exposure controls*

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

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 respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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 such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance: **Form**: Liquid **Colour**: Clear/Colourless

b) Odour: no data available

c) Odour Threshold: no data available

d) pH: 11.7 at 20 °C

e) Melting/freezing point: Melting point/range: -60 °C

f) Initial boiling point and boiling range: 38 - 100 °C at 1,013 hPa

g) Flash point: no data available

h) Evaporation rate: no data available

i) Flammability (solid, gas): no data available

j) Upper/lower flammability or explosive limits: 16-27%(V)

k) Vapour pressure: 153 hPa at 20 °C

l) Vapour density: 1.21 - (Air = 1.0)

m) Relative density: 0.9 g/mL at 25 °C

n) Water solubility: no data available

o) Partition coefficient: n-octanol/water: no data available

p) Autoignition temperature: no data available

q) Decomposition temperature: no data available

r) Viscosity: no data available

s) Explosive properties: no data available

t) Oxidizing properties: no data available

9.2 *Other safety information*

no data available

10. STABILITY AND REACTIVITY

10.1 *Reactivity*

no data available

10.2 *Chemical stability*

no data available

10.3 *Possibility of hazardous reactions*

no data available

10.4 *Conditions to avoid*

no data available

10.5 *Incompatible materials*

Copper, Iron, Zinc

10.6 *Hazardous decomposition products*

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

11.1 *Information on toxicological effects*

Acute toxicity

LD50 Oral - rat - 350 mg/kg (Ammonium hydroxide): Remarks: Gastrointestinal: Other changes. Liver: Other changes. Kidney, Ureter, Bladder: Other changes.

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

Eyes - rabbit - Severe eye irritation (Ammonium hydroxide)

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion May be harmful if swallowed. Causes burns.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

Signs and Symptoms of Exposure

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. (Ammonium hydroxide)

Additional Information

RTECS: Not available

12. ECOLOGICAL INFORMATION

12.1 *Toxicity*

Toxicity to daphnia and other aquatic invertebrates.

Toxicity to fish mortality NOEC - *Oncorhynchus tshawytscha* - 3.5 mg/l - 3.0 d (Ammonium hydroxide)

LC50 - *Daphnia magna* (Water flea) - 32 mg/l - 50 h (Ammonium hydroxide)

12.2 *Persistence and degradability*

no data available

12.3 *Bioaccumulative potential*

no data available

12.4 *Mobility in soil*

no data available

12.5 *Results of PBT and vPvB assessment*

no data available

12.6 *Other adverse effects*

Very toxic to aquatic life.

13. DISPOSAL CONSIDERATIONS

13.1 *Waste treatment methods*

Product

Contact a licensed professional waste disposal service to dispose of this material. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 *UN-Number*

ADR/RID:	2672	IMDG:	2672	IATA:	2672

14.2 *UN proper shipping name*

ADR/RID: AMMONIA SOLUTION

IMDG: AMMONIA SOLUTION

IATA: AMMONIA SOLUTION

14.3 *Transport hazard class(es)*

ADR/RID:	8	IMDG:	8	IATA:	8

14.4 *Packaging group*

ADR/RID:	III	IMDG:	III	IATA:	III

14.5 *Environmental hazards*

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 *Special precautions for users*

no data available

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

no data available

15.2 *Chemical Safety Assessment*

no data available

16. OTHER INFORMATION

Text of H-code(s) and R-phrase(s) mentioned in Section 3

Acute aquatic toxicity

H314 Causes severe skin burns and eye damage.

H400 Very toxic to aquatic life.

Skin Corr. Skin corrosion

C Corrosive

N Dangerous for the environment

R34 Causes burns.

R50 Very toxic to aquatic organisms.