

Section 1. Identification

1.1 Product Identifier 2014

Product Name	AMMONIA BUFFER SOLUTION (for total hardness)
CAS Number	Mixture
REACH Registration No	A registration number is not available as the substance or its uses are exempt, the annual tonnage does not require a registration or the registration is envisaged for a later date.

1.2 Relevant identified uses of the substance or mixture & uses advised against

Uses of Material	Chemical for industrial and laboratory use. Not suitable for domestic use.
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1.3 Supplier Vickers Laboratories Ltd



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1.4 Emergency Telephone (08:00-16:30) +44(0) 113 2362811 (24hr) 112 (Have this document to hand)

Section 2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to regulation 1272/2008/EC

Skin corrosion/irritation, category 1B	H314: Causes severe skin burns and eye damage.
Spec target organ tox - single, category 3	H335: May cause respiratory irritation.
Hazard to aquatic environment, category 1	H400: Very toxic to aquatic life.

2.2 Label elements

Labelling according to regulation 1272/2008/EC

Signal word Danger

Hazard Pictograms



Hazard Statements Causes severe skin burns and eye damage. May cause respiratory irritation. Very toxic to aquatic life.

Precautionary Statements Do not breathe fume/vapours. Wash thoroughly after handling. Wear protective gloves / protective clothing / eye protection. Use only outdoors or in a well-ventilated area. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Store in a well ventilated place. Keep container tightly closed.

Section 3. Composition

3.2 Mixtures

Component	CAS No.	EEC No.	REACH No.	Conc w/w	CLP Classification (1272/2008/CE)
Ammonia	1336-21-6	231-635-3		17.7%	Skin Corr. 1A,STOT SE 3 (I),Aquatic Acute 1

Section 4. First Aid

4.1 Description of first aid measures

Eyes Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.

Skin Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. In severe cases or if exposure has been great, OBTAIN MEDICAL ATTENTION.

Inhalation Remove from exposure. Keep warm and at rest. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If conscious place in a sitting position. OBTAIN MEDICAL ATTENTION URGENTLY.

Ingestion If conscious give plenty of water to drink. Do not induce vomiting. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.

Personal protection for first aiders Wear protective gloves / eye protection.

4.2 Most important symptoms and effects, both acute & delayed.

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed.

No further relevant information available.

Section 5. Fire Fighting

5.1 Extinguishing media

Extinguishing Media Water spray, dry powder, carbon dioxide or vaporising liquids.

Unsuitable Media Nothing specified.

5.2 Special hazards arising from the substance or mixture

Hazards May evolve toxic fumes if involved in a fire. Vapour-air mixtures are explosive.

5.3 Advice for firefighters

Advice for firefighters Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus.

Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Protection Ensure no sources of ignition. Avoid breathing vapour. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so.

6.2 Environmental precautions

Environmental Keep material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.

6.3 Methods and material for containment and cleaning up

Major Spillage	Contain and absorb on inert material. Transfer absorbent to salvage container for removal. Wash area down with copious amounts of water.
Minor Spillage	Contain and absorb on inert material. Neutralise with 5M hydrochloric acid. Transfer absorbent to container for removal. Wash area down with copious amounts of water.

6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

Section 7. Storage & Handling

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing.

Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.

7.2 Conditions for safe storage, including any incompatibilities

Well ventilated, cool, dry storage . Protect from direct sun and store away from sources of ignition.

7.3 Specific end use(s)

See section 1.2.

Section 8. Workplace Exposure & Personal Protection

8.1 Control parameters

Component	CAS No	Concentration	Workplace Exposure Limits			
			Long Term (8hr TWA)	Short Term 15min period		
Ammonia	1336-21-6	17.7%	25.0 ppm	18.0 mg/m-3	35.0 ppm	25.0 mg/m-3

Exposure data source(s) IOELV: Indicative Occupational Exposure Limit Value.

8.2 Exposure controls

Respiratory Protection	Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge respirator, or use self contained breathing apparatus.
Hand Protection	Use nitrile gloves or PVC gauntlets.
Eye Protection	Use tightly fitting chemical splash proof glasses or goggles.
Skin Protection	If skin contact or contamination of clothing is likely, protective clothing must be worn.
Special Hazards	No special precautions required.

Section 9. Physical & Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance	Clear colourless liquid.
Odour	Pungent and intensely irritating.
pH	Not applicable
Boiling Point	Aqueous solution
Melting Point	Not applicable
Flash Point	Not applicable
Upper Flammable Limit	25%
Lower Flammable Limit	16%
Auto Ignition	651°C
Explosive Properties	Slight.
Oxidising Properties	No.
Vapour Pressure	760mmHg @ 26°C
Relative Density	0.9520
Water Solubility	Completely soluble in water.

9.2 Other information

No data available.

Section 10. Stability & Reactivity

10.1	Reactivity	No data available.
10.2	Chemical Stability	Stable under normal conditions
10.3	Possibility of hazardous reactions	No data available.
10.4	Conditions to Avoid	No specific conditions.
10.5	Incompatible Materials	Halogens and halogen compounds. Picric acid. Potassium chlorate. Mercury. Ethylene oxide. Dimethyl sulphate. Chromium trioxide and other chromium compounds.
10.6	Hazardous Decomposition Products	May produce hazardous fumes if involved in a fire.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Eyes	The vapour will be extremely irritating to eyes and can cause chemical eye burns. Damage can range from severe irritation and corneal scarring to permanent blindness.
Skin	The liquid may cause severe burns on prolonged contact.
LD50 Skin	Not available
Ingestion	Ingestion will cause severe mouth burns, and if swallowed extensive damage to the oesophagus.
LD50 Oral	Not available
Inhalation	Exposure to vapour concentrations above the occupational exposure limits will produce irritation of the eyes, nose, throat and respiratory tract. High concentrations of vapour will effect the central nervous system causing spasms. In fatal cases severe damage to the lungs occurs along with secondary cardiovascular effects.
LD50 Inhalation	Not available
TCLo	Not available
Carcinogenicity	Not considered to be a carcinogen.
Mutagenicity	May be a mutagen but only by excessively high, probably fatal, exposure.
Reproductive Effects	No information is available.
Other Information	The irritant effect provides warning that control of exposure is needed. 15ppm is the threshold for irritation with severe irritation occurring above 22ppm.

Section 12. Ecological

12.1	Toxicity	Solutions or high vapour concentrations will cause damage to vegetation. If introduced into rivers lakes etc, pH of water is important. If >7.5-8 will form free ammonia which is toxic to aquatic life. Highly mobile and readily diluted in water courses. Readily bio-degraded in the environment. Low levels are readily bio-degraded in the environment.
	LC50 Algal	Not available
	LC50 Crustacea	Not available
	LC50 Fish	Not available
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 & vPvB assessment	Assessment not required.
12.6	Other adverse effects	None known at present.

Section 13. Disposal Considerations

13.1 Waste treatment methods

Disposal Methods	Dispose of in a licensed incinerator. Never dispose of into water courses or sewerage systems.
Contaminated Packaging	Use a licensed waste disposer. Do not attempt to burn any residual liquids due to risk of explosion. Clean out with a weak hydrochloric acid solution then wash out thoroughly with water.

Section 14. Transport Information

14.1 UN Number	2672
14.2 Proper Shipping Name	Ammonia solution
14.3 Transport classes	
UN classification	8
Subsidiary hazard(s)	None
Transport category	3
ADR Hazard ID	80
Tunnel Restriction Code	E
14.4 Packing Group	III
14.5 Environment hazards	See section 12.
14.6 Special precautions for user	No special precautions required.
14.7 Transport in bulk	Not transported in bulk.



Section 15. Regulatory Information

15.1 Safety, health and environment regulations specific for substance/mixture.

Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

Classification Skin corrosion/irritation, category 1B; Spec target organ tox - single, category 3; Hazard to aquatic environment, category 1

Signal word Danger

Hazard Pictograms



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

Precautionary Statements P260, P264, P280, P271, P303+P361+P353, P403+P233
Do not breathe fume/vapours. Wash thoroughly after handling. Wear protective gloves / protective clothing / eye protection. Use only outdoors or in a well-ventilated area. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Store in a well ventilated place. Keep container tightly closed.

15.2 Chemical safety assessment

Assessment not required.

Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

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