# SAFETY DATA SHEET

## AMMONIA BUFFER SOLUTION


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

### 1.1. Product identifier

<table>
<thead>
<tr>
<th>Product name</th>
<th>AMMONIA BUFFER SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product number</td>
<td>1004</td>
</tr>
<tr>
<td>REACH registration notes</td>
<td>All the ingredients are listed or exempt.</td>
</tr>
</tbody>
</table>

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

Identified uses: Laboratory reagent.

Uses advised against: No specific uses advised against are identified. Use only for intended applications.

### 1.3. Details of the supplier of the safety data sheet

<table>
<thead>
<tr>
<th>Supplier</th>
<th>Reagent Chemical Services</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>18 Aston Fields Road</td>
</tr>
<tr>
<td></td>
<td>Whitehouse Industrial Estate</td>
</tr>
<tr>
<td></td>
<td>Runcorn</td>
</tr>
<tr>
<td></td>
<td>Cheshire WA7 3DL</td>
</tr>
<tr>
<td></td>
<td>T: 01928 716903 (08.30 - 17.00)</td>
</tr>
<tr>
<td></td>
<td>F: 01928 716425</td>
</tr>
<tr>
<td></td>
<td>E: <a href="mailto:info@reagent.co.uk">info@reagent.co.uk</a></td>
</tr>
</tbody>
</table>

### 1.4. Emergency telephone number

<table>
<thead>
<tr>
<th>Emergency telephone</th>
<th>OHES Environmental Ltd 24-7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tel. 0333 333 9939 (24 hour)</td>
</tr>
</tbody>
</table>

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

<table>
<thead>
<tr>
<th>Classification (EC 1272/2008)</th>
<th>Not Classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical hazards</td>
<td></td>
</tr>
<tr>
<td>Health hazards</td>
<td>Skin Corr. 1B - H314 Eye Dam. 1 - H318 STOT SE 3 - H335</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Not Classified</td>
</tr>
</tbody>
</table>

### 2.2. Label elements

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>!</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal word</td>
<td>Danger</td>
</tr>
</tbody>
</table>
AMMONIA BUFFER SOLUTION

Hazard statements
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.

Precautionary statements
P260 Do not breathe vapour/ spray.
P264 Wash contaminated skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
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.
P501 Dispose of contents/ container in accordance with local regulations.

Supplementary precautionary statements
P271 Use only outdoors or in a well-ventilated area.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P321 Specific treatment (see medical advice on this label).
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

2.3. Other hazards
This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

| AMMONIA ...% | 10-30% |
| CAS number: 1336-21-6 | EC number: 215-647-6 | REACH registration number: 01-2119982985-14-0000 |
| M factor (Acute) = 1 |

Classification
Skin Corr. 1B - H314
Eye Dam. 1 - H318
STOT SE 3 - H335
Aquatic Acute 1 - H400

| AMMONIUM CHLORIDE | 5-10% |
| CAS number: 12125-02-9 | REACH registration number: 01-2119489385-24-0000 |

Classification
Acute Tox. 4 - H302
Eye Irrit. 2 - H319

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
General information
Show this Safety Data Sheet to the medical personnel.
AMMONIA BUFFER SOLUTION

Inhalation
Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.

Ingestion
Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention immediately.

Skin contact
Remove contaminated clothing and rinse skin thoroughly with water. Continue to rinse for at least 15 minutes. Get medical attention immediately.

Eye contact
Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Continue to rinse for at least 15 minutes. Get medical attention immediately.

Protection of first aiders
First aid personnel should wear appropriate protective equipment during any rescue.

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

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
Vapours irritate the respiratory system. May cause coughing and difficulties in breathing.

Ingestion
May cause chemical burns in mouth, oesophagus and stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.

Skin contact
Causes severe burns. Severe skin irritation. Redness. Itchiness.

Eye contact
Causes burns. Risk of serious damage to eyes. Corneal damage. Profuse watering of the eyes.

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

Notes for the doctor
Treat symptomatically.

Specific treatments
No specific chemical antidote is known to be required after exposure to this product.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
The product is not flammable. Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards
Water used for fire extinguishing, which has been in contact with the product, may be corrosive.

Hazardous combustion products
Thermal decomposition or combustion products may include the following substances: Ammonia or amines. Hydrogen chloride (HCl).

5.3. Advice for firefighters

Protective actions during firefighting
Fight fire from safe distance or protected location. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters
Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter’s clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.
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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. Follow precautions for safe handling described in this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. Wash thoroughly after dealing with a spillage.

For emergency responders
Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions
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: Wipe up with an absorbent cloth and dispose of waste safely. Large Spillages: Absorb in vermiculite, dry sand or earth and place into containers. Place waste in labelled, sealed containers. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Wash thoroughly after dealing with a spillage.

6.4. Reference to other sections

Reference to other sections
For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions
Do not handle until all safety precautions have been read and understood. Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. Handle all packages and containers carefully to minimise spills. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene
Good personal hygiene procedures should be implemented. Do not eat, drink or smoke when using this product. Take off immediately all contaminated clothing and wash it before reuse. Change work clothing daily before leaving workplace. Contaminated clothing should be placed in a closed container for disposal or decontamination.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions
Keep only in the original container in a cool, well-ventilated place. Protect from freezing and direct sunlight. Keep away from heat. Store away from the following materials: Acids. Oxidising materials.

Storage class
Corrosive storage.

7.3. Specific end use(s)

Specific end use(s)
The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

AMMONIA ...% 
Long-term exposure limit (8-hour TWA): WEL 25 ppm 18 mg/m³
Short-term exposure limit (15-minute): WEL 35 ppm 25 mg/m³

AMMONIUM CHLORIDE
Long-term exposure limit (8-hour TWA): WEL 10 mg/m³
Short-term exposure limit (15-minute): WEL 20 mg/m³
WEL = Workplace Exposure Limit
AMMONIA BUFFER SOLUTION

AMMONIA ...% (CAS: 1336-21-6)

Ingredient comments
The DNEL and PNEC values are taken from the ECHA Registration Dossier for anhydrous ammonia.

DNEL
Workers - Inhalation; Long term systemic effects: 47.6 mg/m³
Workers - Inhalation; Short term systemic effects: 47.6 mg/m³
Workers - Inhalation; Long term local effects: 14 mg/m³
Workers - Inhalation; Short term local effects: 36 mg/m³
Workers - Dermal; Long term systemic effects: 6.8 mg/kg/day
Workers - Dermal; Short term systemic effects: 6.8 mg/kg/day
General population - Inhalation; Long term systemic effects: 23.8 mg/m³
General population - Inhalation; Short term systemic effects: 23.8 mg/m³
General population - Inhalation; Long term local effects: 2.8 mg/m³
General population - Inhalation; Short term local effects: 7.2 mg/m³
General population - Dermal; Long term systemic effects: 68 mg/kg/day
General population - Dermal; Short term systemic effects: 68 mg/kg/day
General population - Oral; Long term systemic effects: 6.8 mg/kg/day
General population - Oral; Short term systemic effects: 6.8 mg/kg/day

PNEC
- Fresh water; 0.001 mg/l
- Marine water; 0.001 mg/l

AMMONIUM CHLORIDE (CAS: 12125-02-9)

DNEL
Workers - Inhalation; Long term systemic effects: 33.5 mg/m³
Workers - Dermal; Long term systemic effects: 190 mg/kg/day
General population - Inhalation; Long term systemic effects: 9.9 mg/m³
General population - Dermal; Long term systemic effects: 114 mg/kg/day
General population - Oral; Long term systemic effects: 11.4 mg/kg/day

PNEC
- Fresh water; 1.2 mg/l
- Marine water; 11.2 mg/l
- STP; 16.2 mg/l
- Soil; 0.163 mg/kg

8.2. Exposure controls

Protective equipment
Appropriate engineering controls
Provide adequate general and local exhaust ventilation. Avoid inhalation of vapours.

Eye/face protection
Wear tight-fitting, chemical splash goggles or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection
Wear protective gloves. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. The breakthrough time for any glove material may be different for different glove manufacturers. To protect hands from chemicals, gloves should comply with European Standard EN374. For exposure up to 8 hours, wear gloves made of the following material: Nitrile rubber. Viton rubber (fluoro rubber). Thickness: ~ 0.6 mm Frequent changes are recommended.
AMMONIA BUFFER SOLUTION

Other skin and body protection
Wear apron or protective clothing in case of contact.

Hygiene measures
Good personal hygiene procedures should be implemented. Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke. Wash hands thoroughly after handling. Promptly remove any clothing that becomes wet or contaminated. Wash promptly if skin becomes contaminated. Contaminated clothing should be placed in a closed container for disposal or decontamination. Warn cleaning personnel of any hazardous properties of the product.

Respiratory protection
Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. Wear a respirator fitted with the following cartridge: Organic vapour + dust and mist filter. Use half mask and quarter mask respirators with replaceable filter cartridges that comply with European Standard EN140. Check that the respirator fits tightly and the filter is changed regularly. Change filter cartridge on respirator daily.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>Ammonia</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH</td>
<td>pH (concentrated solution): 10</td>
</tr>
<tr>
<td>Melting point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Initial boiling point and range</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flash point</td>
<td>Scientifically unjustified. Not determined.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Technical impossibility to obtain the data.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Miscible with water</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No specific test data are available.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No specific test data are available.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>There are no chemical groups present in the product that are associated with explosive properties.</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Does not meet the criteria for classification as oxidising.</td>
</tr>
</tbody>
</table>

9.2. Other information
None.

SECTION 10: Stability and reactivity

10.1. Reactivity
AMMONIA BUFFER SOLUTION

Reactivity
The reactivity data for this product will be typical of those for the following class of materials: Ammonia or amines.

10.2. Chemical stability
Stability
Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions
The following materials may react strongly with the product: Strong acids. Strong oxidising agents.

10.4. Conditions to avoid
Conditions to avoid
Avoid excessive heat for prolonged periods of time. Avoid freezing. Avoid contact with acids. Avoid contact with strong oxidising agents.

10.5. Incompatible materials
Materials to avoid

10.6. Hazardous decomposition products
Hazardous decomposition products
Heating may generate the following products: Ammonia or amines. Hydrogen chloride (HCl).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral
ATE oral (mg/kg) 7,407.41

Skin corrosion/irritation
Skin corrosion/irritation Corrosive to skin.

Serious eye damage/irritation
Serious eye damage/irritation Corrosivity to eyes is assumed. Causes serious eye damage.

Respiratory sensitisation
Respiratory sensitisation There is no evidence that the product can cause respiratory hypersensitivity.

Skin sensitisation
Skin sensitisation No specific test data are available.

Germ cell mutagenicity
Genotoxicity - in vitro No specific test data are available.

Genotoxicity - in vivo
Does not contain any substances known to be mutagenic.

Carcinogenicity
Carcinogenicity There is no evidence that the product can cause cancer.

Reproductive toxicity

Reproductive toxicity - fertility
Does not contain any substances known to be toxic to reproduction.

Reproductive toxicity - development
Does not contain any substances known to be toxic to reproduction.

Specific target organ toxicity - single exposure

STOT - single exposure
No specific test data are available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure
No specific test data are available.
AMMONIA BUFFER SOLUTION

Aspiration hazard
Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation
Vapour from this product may be hazardous by inhalation. Irritating to respiratory system.

Ingestion
Corrosive. Small amounts may cause serious damage.

Skin contact
Causes burns.

Eye contact
This product is strongly corrosive. Immediate first aid is imperative. Risk of serious damage to eyes.

Acute and chronic health hazards
This product is corrosive.

Route of entry
Skin and/or eye contact Inhalation

Acute toxicity - oral
Notes (oral LD₅₀)
LD₅₀ 350 mg/kg, Oral, Rat

Acute toxicity - dermal
Notes (dermal LD₅₀)
Based on available data the classification criteria are not met.

Acute toxicity - inhalation
Notes (inhalation LCₕ₀)
LC₅₀ 9850 mg/m³, Inhalation, Rat 60 minute exposure

Skin corrosion/irritation
Animal data
Skin Corr. 1B - H314 Causes severe burns.

Extreme pH
≥ 11.5 Corrosive.

Serious eye damage/irritation
Serious eye damage/irritation
Eye Dam. 1 - H318 Corrosive to skin. Corrosivity to eyes is assumed.

Respiratory sensitisation
Based on available data the classification criteria are not met.

Skin sensitisation
Based on available data the classification criteria are not met.

Germ cell mutagenicity
Based on available data the classification criteria are not met.

Genotoxicity - in vitro
Based on available data the classification criteria are not met.

Genotoxicity - in vivo
Based on available data the classification criteria are not met.

Carcinogenicity
Based on available data the classification criteria are not met.

IARC carcinogenicity
None of the ingredients are listed or exempt.

Reproductive toxicity
Reproductive toxicity - fertility
Based on available data the classification criteria are not met.
AMMONIA BUFFER SOLUTION

Reproductive toxicity - development
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure
STOT SE 3 - H335 May cause respiratory irritation.

Target organs
Respiratory system, lungs

Specific target organ toxicity - repeated exposure

STOT - repeated exposure
Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard
Based on available data the classification criteria are not met.

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
Severe irritation of nose and throat. Symptoms following overexposure may include the following: Corrosive to the respiratory tract.

Ingestion
Severe stomach pain. Nausea, vomiting. Symptoms following overexposure may include the following: May cause chemical burns in mouth, oesophagus and stomach.

Skin contact
Causes severe burns. Symptoms following overexposure may include the following: Pain or irritation. Redness. Blistering may occur.

Eye contact
Causes serious eye damage. Symptoms following overexposure may include the following: Pain. Profuse watering of the eyes. Redness.

Route of entry
Ingestion Inhalation Skin and/or eye contact

Target organs
Respiratory system, lungs

AMMONIUM CHLORIDE

Acute toxicity - oral
Notes (oral LD₅₀)
LD₅₀ 1410 mg/kg, Oral, Rat

Acute toxicity - dermal
Notes (dermal LD₅₀)
LD₅₀ >2000 mg/kg, Dermal, Rat

Acute toxicity - inhalation
Notes (Inhalation LC₅₀)
No specific test data are available.

Skin corrosion/irritation

Skin corrosion/irritation
Based on available data the classification criteria are not met.

Serious eye damage/irritation
Causes serious eye irritation.

Respiratory sensitisation

Respiratory sensitisation
Based on available data the classification criteria are not met.
AMMONIA BUFFER SOLUTION

Germ cell mutagenicity
Genotoxicity - in vitro  Based on available data the classification criteria are not met.
Genotoxicity - In vivo  Based on available data the classification criteria are not met.
Carcinogenicity
Carcinogenicity  Based on available data the classification criteria are not met.
Reproductive toxicity
Reproductive toxicity - fertility  Based on available data the classification criteria are not met.
Specific target organ toxicity - single exposure
STOT - single exposure  Based on available data the classification criteria are not met.
Specific target organ toxicity - repeated exposure
STOT - repeated exposure  Based on available data the classification criteria are not met.
Aspiration hazard
Aspiration hazard  Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation  Irritating to respiratory system. May cause damage to mucous membranes in nose, throat, lungs and bronchial system.
Ingestion  Irritating. Symptoms following overexposure may include the following: Nausea, vomiting. Stomach pain.
Skin contact  Slightly irritating.
Eye contact  Irritating to eyes.

SECTION 12: Ecological Information

Ecotoxicity  The product contains a substance which is very toxic to aquatic organisms.

AMMONIUM CHLORIDE

Ecotoxicity  The product is not expected to be hazardous to the environment. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity
Acute toxicity - fish  No specific test data are available.
Acute toxicity - aquatic invertebrates  Not determined.
Acute toxicity - aquatic plants  Not determined.

AMMONIA ...%

Toxicity  Aquatic Acute 1 - H400 Very toxic to aquatic life.
Acute aquatic toxicity
LE(C)₅₀  0.1 < L(E)C50 ≤ 1
M factor (Acute)  1
AMMONIA BUFFER SOLUTION

Acute toxicity - aquatic invertebrates

LC₅₀, 48 hours: 101 mg/l, Daphnia magna

AMMONIUM CHLORIDE

Acute toxicity - fish

LC₅₀, 96 hours: 209 mg/l, Cyprinus carpio (Common carp)

Acute toxicity - aquatic invertebrates

EC₅₀, 48 hours: 101 mg/l, Daphnia magna

Acute toxicity - microorganisms

EC₅₀, 30 minutes: 1618 mg/l, Activated sludge

Short term toxicity - embryo and sac fry stages

LOEC, 28 days: 18.7 mg/l, Pimephales promelas (Fat-head Minnow)

Chronic toxicity - aquatic invertebrates

NOEC, 21 days: 14.6 mg/l, Daphnia magna

12.2. Persistence and degradability

Persistence and degradability

There are no data on the degradability of this product.

AMMONIA ...% 

Persistence and degradability

Ammonia is readily broken down in soil.

AMMONIUM CHLORIDE

Persistence and degradability

There are no data on the degradability of this product.

12.3. Bioaccumulative potential

Bioaccumulative potential

Bioaccumulation is unlikely.

Partition coefficient

No specific test data are available.

AMMONIA ...% 

Bioaccumulative potential

Bioaccumulation is unlikely.

AMMONIUM CHLORIDE

Bioaccumulative potential

No data available on bioaccumulation.

Partition coefficient

Not known.

12.4. Mobility in soil

Mobility

The product is soluble in water.

AMMONIA ...% 

Mobility

The product is water-soluble and may spread in water systems.

Adsorption/desorption coefficient

Not available.
AMMONIA BUFFER SOLUTION

Henry's law constant
0.000016 atm m3/mol @ 25°C Based on ammonia.

Surface tension
65.25 mN/m @ 19.4°C Based on 17.37% volume aqueous ammonia.

AMMONIUM CHLORIDE

Mobility
The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment
This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects

Other adverse effects
None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information
When handling waste, the safety precautions applying to handling of the product should be considered. The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible.

Disposal methods
Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 2672
UN No. (IMDG) 2672
UN No. (ICAO) 2672
UN No. (ADN) 2672

14.2. UN proper shipping name
AMMONIA BUFFER SOLUTION

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)

ADR/RID class 8
ADR/RID classification code C5
ADR/RID label 8
IMDG class 8
ICAO class/division 8
ADN class 8

Transport labels

14.4. Packing group

ADR/RID packing group III
IMDG packing group III
ADN packing group III
ICAO packing group III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

IMDG Code segregation group 18. Alkalis
EmS F-A, S-B
ADR transport category 3
Hazard Identification Number (ADR/RID) 80
Tunnel restriction code (E)

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

SECTION 15: Regulatory information

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

National regulations
Control of Substances Hazardous to Health Regulations 2002 (as amended).
Health and Safety at Work etc. Act 1974 (as amended).

EU legislation

Guidance
Workplace Exposure Limits EH40.

Authorisations (Title VII Regulation 1907/2006)
No specific authorisations are known for this product.

Restrictions (Title VIII Regulation 1907/2006)
No specific restrictions on use are known for this product.

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

Inventories
EU - EINECS/ELINCS
All the ingredients are listed or exempt.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet
ATE: Acute Toxicity Estimate.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
DNEL: Derived No Effect Level.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
PNEC: Predicted No Effect Concentration.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
vPvB: Very Persistent and Very Bioaccumulative.
DMEL: Derived Minimal Effect Level.

Classification abbreviations and acronyms
Eye Dam. = Serious eye damage
Skin Corr. = Skin corrosion
STOT SE = Specific target organ toxicity-single exposure

General information
Only trained personnel should use this material.

Key literature references and sources for data

Classification procedures according to Regulation (EC) 1272/2008

Revision date
23/04/2018
Revision
2
Supersedes date
25/09/2008
SDS number
10062
AMMONIA BUFFER SOLUTION

SDS status  Approved.

Hazard statements in full

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H400 Very toxic to aquatic life.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.