SAFETY DATA SHEET
AMMONIA SOLUTION AR 0.91 S.G.

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

1.1. Product identifier
Product name AMMONIA SOLUTION AR 0.91 S.G.
Product number 1198
REACH registration number 01-2119488878-14-XXXX
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 Laboratory chemicals General chemical reagent
Uses advised against Processes that would lead to over-exposure of the operators. Processes involving incompatible materials.

1.3. Details of the supplier of the safety data sheet
Supplier Reagent Chemical Services
18 Aston Fields Road
Whitehouse Industrial Estate
Runcorn
Cheshire WA7 3DL
T: 01928 716903 (08.30 - 17.00)
F: 01928 716425
E: info@reagent.co.uk

1.4. Emergency telephone number
Emergency telephone OHES Environmental Ltd 24-7
Tel. 0333 333 9939 (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 Eye Dam. 1 - H318
Environmental hazards Aquatic Acute 1 - H400

Classification (67/548/EEC or 1999/45/EC) C;R34. N;R50.

2.2. Label elements
EC number 215-647-6
AMMONIA SOLUTION AR 0.91 S.G.

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
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
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 to hazardous waste depot.

Contains
AMMONIA 25%

Supplementary 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.
P301+P330+P311 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.
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.

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

<table>
<thead>
<tr>
<th>AMMONIA ...%</th>
<th>10-30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 1336-21-6</td>
<td>EC number: 215-647-6</td>
</tr>
<tr>
<td>M factor (Acute) = 1</td>
<td></td>
</tr>
</tbody>
</table>

Classification
Skin Corr. 1B - H314
Eye Dam. 1 - H318
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.

SECTION 4: First aid measures

4.1. Description of first aid measures
AMMONIA SOLUTION AR 0.91 S.G.

General information
Get medical attention immediately. Show this Safety Data Sheet to the medical personnel. Chemical burns must be treated by a physician.

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. Maintain an open airway. Loosen tight clothing such as collar, tie or belt. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Place unconscious person on their side in the recovery position and ensure breathing can take place.

Ingestion
Rinse mouth thoroughly with water. Remove any dentures. Do not induce vomiting unless under the direction of medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Place unconscious person on their side in the recovery position and ensure breathing can take place. Maintain an open airway. Loosen tight clothing such as collar, tie or belt.

Skin contact
It is important to remove the substance from the skin immediately. Take off immediately all contaminated clothing. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention. Chemical burns must be treated by a physician.

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 10 minutes.

Protection of first aiders
First aid personnel should wear appropriate protective equipment during any rescue. If it is suspected that volatile contaminants are still present around the affected person, first aid personnel should wear an appropriate respirator or self-contained breathing apparatus. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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

General information
See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
A single exposure may cause the following adverse effects: Severe irritation of nose and throat. Symptoms following overexposure may include the following: Corrosive to the respiratory tract.

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

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.

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

Notes for the doctor
Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
The product is not flammable. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. 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.
AMMONIA SOLUTION AR 0.91 S.G.

5.2. Special hazards arising from the substance or mixture

Specific hazards: Containers can burst violently or explode when heated, due to excessive pressure build-up. Severe corrosive hazard. 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: Very toxic or corrosive gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting: Avoid breathing fire gases or vapours. Evacuate area. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Ventilate closed spaces before entering them. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Avoid discharge to the aquatic environment. Control run-off water by containing and keeping it out of sewers and watercourses. If risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighters: Regular protection may not be safe. 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.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Wear protective clothing as described in Section 8 of this safety data sheet. Follow precautions for safe handling described in this safety data sheet. Wash thoroughly after dealing with a spillage. Ensure procedures and training for emergency decontamination and disposal are in place. Do not touch or walk into spilled material. Provide adequate ventilation. Avoid inhalation of vapours and spray/mists. Use suitable respiratory protection if ventilation is inadequate. Avoid contact with skin and eyes. Avoid contact with contaminated tools and objects.

6.2. Environmental precautions

Environmental precautions: Avoid discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. This product is corrosive. Approach the spillage from upwind. Small Spillages: If the product is soluble in water, dilute the spillage with water and mop it up. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Large Spillages: If leakage cannot be stopped, evacuate area. Flush spilled material into an effluent treatment plant, or proceed as follows. Contain and absorb spillage with sand, earth or other non-combustible material. Place waste in labelled, sealed containers. Clean contaminated objects and areas thoroughly, observing environmental regulations. The contaminated absorbent may pose the same hazard as the spilled material. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. Dangerous for the environment. Do not empty into drains. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

6.4. Reference to other sections
AMMONIA SOLUTION AR 0.91 S.G.

Reference to other sections
For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions
Read and follow manufacturer’s recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink and animal feeding stuffs. Handle all packages and containers carefully to minimise spills. Keep container tightly sealed when not in use. Avoid the formation of mists. This product is corrosive. Immediate first aid is imperative. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers.

Advice on general occupational hygiene
Wash promptly if skin becomes contaminated. Take off contaminated clothing. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Change work clothing daily before leaving workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions
Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Store away from the following materials: Acids. Keep only in the original container. Keep container tightly closed, in a cool, well ventilated place. Keep containers upright. Protect containers from damage. Bund storage facilities to prevent soil and water pollution in the event of spillage. The storage area floor should be leak-tight, jointless and not absorbent.

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
WEL = Workplace Exposure Limit

Ingredient comments
The following information refers to anhydrous ammonia.
AMMONIA SOLUTION AR 0.91 S.G.

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

8.2. Exposure controls

Protective equipment

Appropriate engineering controls

Provide adequate ventilation. Personal, workplace environment or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Use process enclosures, local exhaust ventilation or other engineering controls as the primary means to minimise worker exposure. Personal protective equipment should only be used if worker exposure cannot be controlled adequately by the engineering control measures. Ensure control measures are regularly inspected and maintained. Ensure operatives are trained to minimise exposure.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. 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. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

Other skin and body protection

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

Hygiene measures

Provide eyewash station and safety shower. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Clean equipment and the work area every day. 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. Preventive industrial medical examinations should be carried out. Warn cleaning personnel of any hazardous properties of the product.
AMMONIA SOLUTION AR 0.91 S.G.

**Respiratory protection**
Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Ensure all respiratory protective equipment is suitable for its intended use and is ‘CE’-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14387. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

**Environmental exposure controls**
Keep container tightly sealed when not in use. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels. Store in a demarcated bunded area to prevent release to drains and/or watercourses.

### 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><strong>Appearance</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Colour</strong></td>
<td>Clear liquid. Colourless.</td>
</tr>
<tr>
<td><strong>Odour</strong></td>
<td>Strong. Ammonia.</td>
</tr>
<tr>
<td><strong>Odour threshold</strong></td>
<td>Detectable by most people at 5ppm.</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>pH (concentrated solution): 14</td>
</tr>
<tr>
<td><strong>Melting point</strong></td>
<td>Below -70°C 28% w/w quoted as being -69.2°C</td>
</tr>
<tr>
<td><strong>Initial boiling point and range</strong></td>
<td>30% solution has a quoted boiling point of 36°C @</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>Not applicable. Aqueous solutions of ammonia do not show a flash point.</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not available. No supplied or registered information.</td>
</tr>
<tr>
<td><strong>Upper/lower flammability or explosive limits</strong></td>
<td>Upper flammable/explosive limit: 25 (Anhydrous ammonia) Lower flammable/explosive limit: 16 (Anhydrous ammonia)</td>
</tr>
<tr>
<td><strong>Other flammability</strong></td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td>118 mm Hg @ °C</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>0.88-0.91 @ °C Will vary dependent upon the ammonia concentration.</td>
</tr>
<tr>
<td><strong>Bulk density</strong></td>
<td>Not applicable. Only applicable to solids.</td>
</tr>
<tr>
<td><strong>Solubility(ies)</strong></td>
<td>Miscible with water.</td>
</tr>
<tr>
<td><strong>Partition coefficient</strong></td>
<td>Technically not feasible.</td>
</tr>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>651°C (Anhydrous ammonia) °C</td>
</tr>
<tr>
<td><strong>Decomposition Temperature</strong></td>
<td>Not available. No supplied or registered information.</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>1.1 mPa s @ 26.7°C 26% w/w ammonia solution</td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>Not explosive</td>
</tr>
<tr>
<td><strong>Oxidising properties</strong></td>
<td>Does not meet the criteria for classification as oxidising.</td>
</tr>
</tbody>
</table>

#### 9.2. Other information

- **Other information**: None.

### SECTION 10: Stability and reactivity
AMMONIA SOLUTION AR 0.91 S.G.

10.1. Reactivity
Reactivity
The following materials may react violently with the product: Acids. Chemically-active metals.

10.2. Chemical stability
Stability
Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions
May generate heat. Reactions with the following materials may cause explosions: Mercury and silver compounds.

10.4. Conditions to avoid
Conditions to avoid
Avoid heat. Containers can burst violently or explode when heated, due to excessive pressure build-up. Avoid freezing. Avoid contact with any incompatible materials.

10.5. Incompatible materials
Materials to avoid

10.6. Hazardous decomposition products
Hazardous decomposition products
Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Toxic and corrosive gases or vapours. Oxides of nitrogen.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Toxicological effects
The mixture has not been tested for toxicological properties.

Acute toxicity - oral
Notes (oral LD₅₀)
Based on available data the classification criteria are not met. LD₅₀ 350 mg/kg, Oral, Rat Refers to aqueous ammonia solution, concentration not specified.

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

Acute toxicity - inhalation
Notes (inhalation LC₅₀)
Based on available data the classification criteria are not met. LC₅₀ 9850 mg/m³, Inhalation, Rat 60 minute exposure Atmospheric ammonia.

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

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

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

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

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.
AMMONIA SOLUTION AR 0.91 S.G.

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

IARC carcinogenicity
None of the ingredients are listed or exempt.

Reproductive toxicity
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.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure
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
Irritation of the respiratory system. Coughing and difficulties in breathing. Vapours or mists in high concentration may cause damage to mucous membranes. May cause pulmonary oedema.

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

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

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity
Aquatic Acute 1 - H400 Very toxic to aquatic life.

Acute toxicity - fish
LC50, 96 hours: 34-109 mg/l, Pimephales promelas (Fat-head Minnow)
Based on total ammonia nitrogen.
Ammonium Chloride

Acute toxicity - aquatic invertebrates
LC50, 48 hours: 101 mg/l, Daphnia magna
Aqueous ammonia solutions.
Ammonium chloride

Acute toxicity - aquatic plants
EC50, 18 days: 2700 mg/l, Freshwater algae
18 day exposure to ammonium sulphate, chlorella vulgaris.

Acute toxicity - microorganisms
Scientifically unjustified.
AMMONIA SOLUTION AR 0.91 S.G.

Acute toxicity - terrestrial
Scientifically unjustified.

Chronic toxicity - fish early life stage
LOEC, 73 days: 0.022 mg/l, Onchorhynchus mykiss (Rainbow trout)

Chronic toxicity - aquatic invertebrates
LOEC, 21 days: 1.3 mg/l from ammonium chloride. Daphnia magna

Toxicity to soil
Scientifically unjustified.

12.2. Persistence and degradability

Persistence and degradability
The product contains inorganic substances which are not biodegradable.

Phototransformation
No information available.

Stability (hydrolysis)
Scientifically unjustified.

Biodegradation
Scientifically unjustified.

Biological oxygen demand
Not available.

Chemical oxygen demand
Not available.

12.3. Bioaccumulative potential

Bioaccumulative potential
Scientifically unjustified.

Partition coefficient
Technically not feasible.

12.4. Mobility in soil

Mobility
The product is water-soluble and may spread in water systems. Readily adsorbed into soil.

Adsorption/desorption coefficient
Not available.

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.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment
This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects
None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information
The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.
AMMONIA SOLUTION AR 0.91 S.G.

Disposal methods
Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 14: Transport information

General
For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.

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 |

14.3. Transport hazard class(es)
| ADR/RID class | 8 |
| ADR/RID label | 8 |
| IMDG class    | 8 |
| ICAO class/division | 8 |

Transport labels

14.4. Packing group
| ADR/RID packing group | III |
| IMDG packing group    | III |
| ICAO packing group    | III |

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user
Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
AMMONIA SOLUTION AR 0.91 S.G.

EmS
F-A, S-B

Emergency Action Code
2R

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. For packages of supplied material.

SECTION 15: Regulatory information

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

National regulations

EU legislation

Guidance
ECHA Guidance on the Compilation of Safety Datasheets

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

Inventories
EU - EINECS/ELINCS
None of the ingredients are listed or exempt.

SECTION 16: Other information

Abbreviations and acronyms
used in the safety data sheet
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
CAS: Chemical Abstracts Service.
ATE: Acute Toxicity Estimate.
LC₅₀: Lethal Concentration to 50 % of a test population.
LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
EC₅₀: 50% of maximal Effective Concentration.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Persistent and Very Bioaccumulative.
AMMONIA SOLUTION AR 0.91 S.G.

**Classification abbreviations and acronyms**
- Eye Dam. = Serious eye damage
- Skin Corr. = Skin corrosion
- STOT SE = Specific target organ toxicity-single exposure
- Aquatic Acute = Hazardous to the aquatic environment (acute)

**General information**
Under REACH Material Safety Datasheets (MSDS) are referred to as Safety Datasheets (SDS). This datasheet is not intended to be a replacement for a full risk assessment, these should always be carried out by competent persons.

**Key literature references and sources for data**

**Classification procedures according to Regulation (EC) 1272/2008**

**Training advice**
Read and follow manufacturer's recommendations. Only trained personnel should use this material.

**Revision comments**
General rewrite

**Revision date**
10/07/2017

**Revision**
4

**Supersedes date**
12/06/2013

**SDS number**
11090

**SDS status**
Approved.

**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.
- H318 Causes serious eye damage.
- 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.