

**SAFETY DATA SHEET**  
**BUFFER SOLUTION pH 4**

According to Regulation (EC) No 1907/2006, Annex II, as amended. Commission Regulation (EU) No 2015/830 of 28 May 2015.

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

**Product name** BUFFER SOLUTION pH 4  
**Product number** 1136

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

**Identified uses** Laboratory reagent.  
**Uses advised against** Use only for intended applications.

**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](mailto: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** Not Classified  
**Environmental hazards** Not Classified

**2.2. Label elements**

**Hazard statements** NC Not Classified

**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**

**Ingredient notes** None of the ingredients are required to be listed.

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### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

<b>General information</b>	Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.
<b>Inhalation</b>	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. Get medical attention if any discomfort continues.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Stop if the affected person feels sick as vomiting may be dangerous. 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. Maintain an open airway. Get medical attention.
<b>Skin contact</b>	Remove affected person from source of contamination. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.
<b>Eye contact</b>	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. Get medical attention if irritation persists after washing.
<b>Protection of first aiders</b>	First aid personnel should wear appropriate protective equipment during any rescue.

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

<b>General information</b>	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.
<b>Inhalation</b>	Prolonged inhalation of high concentrations may damage respiratory system.
<b>Ingestion</b>	Symptoms following overexposure may include the following: Gastrointestinal symptoms, including upset stomach.
<b>Skin contact</b>	Prolonged contact may cause dryness of the skin.
<b>Eye contact</b>	May cause temporary eye irritation.

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

<b>Notes for the doctor</b>	Treat symptomatically.
<b>Specific treatments</b>	No special treatment required.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

<b>Suitable extinguishing media</b>	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.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.

#### 5.2. Special hazards arising from the substance or mixture

<b>Hazardous combustion products</b>	Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours.
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#### 5.3. Advice for firefighters

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<b>Protective actions during firefighting</b>	Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. If a leak or spill has not ignited, use water spray to disperse vapours and protect men stopping the leak. Control run-off water by containing and keeping it out of sewers and watercourses.
<b>Special protective equipment for firefighters</b>	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

<b>Personal precautions</b>	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.
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#### 6.2. Environmental precautions

<b>Environmental precautions</b>	Avoid discharge to the aquatic environment. Large Spillages: Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).
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#### 6.3. Methods and material for containment and cleaning up

<b>Methods for cleaning up</b>	Wear protective clothing as described in Section 8 of this safety data sheet. Clear up spills immediately and dispose of waste safely. Reuse or recycle products wherever possible. 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. Contain and absorb spillage with sand, earth or other non-combustible material. 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. Clean contaminated objects and areas thoroughly, observing environmental regulations. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage.
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#### 6.4. Reference to other sections

<b>Reference to other sections</b>	For personal protection, see Section 8. For waste disposal, see Section 13.
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### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

<b>Usage precautions</b>	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.
<b>Advice on general occupational hygiene</b>	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

<b>Storage precautions</b>	Store away from incompatible materials (see Section 10). Store in accordance with local regulations. Store away from the following materials: Acids. Alkalis.
<b>Storage class</b>	Chemical storage.

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### 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

No exposure limits known for ingredient(s).

**DNEL** No data available.

**PNEC** No data available.

#### 8.2. Exposure controls

##### Protective equipment



##### Appropriate engineering controls

Provide adequate ventilation. Good general ventilation should be adequate to control worker exposure to airborne contaminants.

##### 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. The following protection should be worn: Chemical splash goggles.

##### Hand protection

Wear protective gloves. To protect hands from chemicals, gloves should comply with European Standard EN374. The most suitable glove should be chosen in consultation with the glove supplier/manufacture, who can provide information about the breakthrough time of the glove material. 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. For exposure up to 8 hours, wear gloves made of the following material: Polyethylene. Neoprene. Polyvinyl chloride (PVC). Thickness: ~ 0.3 mm 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.

##### Respiratory protection

Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Wear a respirator fitted with the following cartridge: Combination filter, type A2/P2. Provide adequate ventilation.

##### Environmental exposure controls

Not regarded as dangerous for the environment.

### SECTION 9: Physical and Chemical Properties

#### 9.1. Information on basic physical and chemical properties

**Appearance** Liquid.

**Colour** Colourless.

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<b>Odour</b>	Odourless.
<b>pH</b>	pH (concentrated solution): pH4 @ 20°C
<b>Melting point</b>	Approx. 0°C The freezing point will decrease with concentration.
<b>Initial boiling point and range</b>	Approx. 100°C @ The boiling point will increase with concentration.
<b>Flash point</b>	Scientifically unjustified.
<b>Evaporation rate</b>	No specific test data are available.
<b>Upper/lower flammability or explosive limits</b>	Scientifically unjustified.
<b>Vapour pressure</b>	No specific test data are available.
<b>Relative density</b>	Approx. 1.0 @ @ 20°C The density will increase slightly with concentration.
<b>Solubility(ies)</b>	Miscible with water.
<b>Partition coefficient</b>	No specific test data are available.
<b>Auto-ignition temperature</b>	Technical impossibility to obtain the data.
<b>Decomposition Temperature</b>	No specific test data are available.
<b>Viscosity</b>	Not determined.
<b>Explosive properties</b>	Not considered to be explosive.
<b>Oxidising properties</b>	Does not meet the criteria for classification as oxidising.

### 9.2. Other information

**Other information** None.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

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

### 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.

### 10.4. Conditions to avoid

**Conditions to avoid** Avoid heat. Avoid freezing. Avoid contact with any incompatible materials.

### 10.5. Incompatible materials

**Materials to avoid** Acids. Alkalis.

### 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: Harmful gases or vapours. Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

## SECTION 11: Toxicological information

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### 11.1. Information on toxicological effects

<b>Toxicological effects</b>	Not regarded as a health hazard under current legislation.
<b><u>Acute toxicity - oral</u></b>	
<b>Notes (oral LD<sub>50</sub>)</b>	Based on available data the classification criteria are not met.
<b><u>Acute toxicity - dermal</u></b>	
<b>Notes (dermal LD<sub>50</sub>)</b>	Based on available data the classification criteria are not met.
<b><u>Acute toxicity - inhalation</u></b>	
<b>Notes (inhalation LC<sub>50</sub>)</b>	Based on available data the classification criteria are not met.
<b><u>Skin corrosion/irritation</u></b>	
<b>Skin corrosion/irritation</b>	Based on available data the classification criteria are not met.
<b>Animal data</b>	Based on available data the classification criteria are not met.
<b><u>Serious eye damage/irritation</u></b>	
<b>Serious eye damage/irritation</b>	Based on available data the classification criteria are not met.
<b><u>Respiratory sensitisation</u></b>	
<b>Respiratory sensitisation</b>	Based on available data the classification criteria are not met.
<b><u>Skin sensitisation</u></b>	
<b>Skin sensitisation</b>	Based on available data the classification criteria are not met.
<b><u>Germ cell mutagenicity</u></b>	
<b>Genotoxicity - in vitro</b>	Based on available data the classification criteria are not met.
<b><u>Carcinogenicity</u></b>	
<b>Carcinogenicity</b>	Based on available data the classification criteria are not met.
<b>IARC carcinogenicity</b>	None of the ingredients are listed or exempt.
<b><u>Reproductive toxicity</u></b>	
<b>Reproductive toxicity - fertility</b>	Based on available data the classification criteria are not met.
<b>Reproductive toxicity - development</b>	Based on available data the classification criteria are not met.
<b><u>Specific target organ toxicity - single exposure</u></b>	
<b>STOT - single exposure</b>	Not classified as a specific target organ toxicant after a single exposure.
<b><u>Specific target organ toxicity - repeated exposure</u></b>	
<b>STOT - repeated exposure</b>	Not classified as a specific target organ toxicant after repeated exposure.
<b><u>Aspiration hazard</u></b>	
<b>Aspiration hazard</b>	Based on available data the classification criteria are not met.
<b><u>General information</u></b>	
<b>Inhalation</b>	No specific health hazards known. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
<b>Ingestion</b>	Prolonged inhalation of high concentrations may damage respiratory system.
<b>Skin contact</b>	Gastrointestinal symptoms, including upset stomach. Fumes from the stomach contents may be inhaled, resulting in the same symptoms as inhalation.
<b>Eye contact</b>	Prolonged contact may cause dryness of the skin.
<b>Eye contact</b>	May cause temporary eye irritation.

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<b>Acute and chronic health hazards</b>	No known chronic or acute health risks.
<b>Route of entry</b>	Ingestion Inhalation Skin and/or eye contact
<b>Target organs</b>	No specific target organs known.

### SECTION 12: Ecological Information

**Ecotoxicity** Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

#### 12.1. Toxicity

**Toxicity** Based on available data the classification criteria are not met.

**Acute toxicity - fish** No specific test data are available.

**Acute toxicity - aquatic invertebrates** No specific test data are available.

**Chronic toxicity - fish early life stage** Not determined.

#### 12.2. Persistence and degradability

**Persistence and degradability** The degradability of the product is not known.

**Biodegradation** The product is expected to be biodegradable.

#### 12.3. Bioaccumulative potential

**Bioaccumulative potential** No data available on bioaccumulation.

**Partition coefficient** No specific test data are available.

#### 12.4. Mobility in soil

**Mobility** The product is water-soluble and may spread in water systems. The product is non-volatile.

#### 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.

**Disposal methods** Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste packaging should be collected for reuse or recycling. Incineration or landfill should only be considered when recycling is not feasible. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of the local water authority.

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### SECTION 14: Transport information

**General** The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

#### 14.1. UN number

Not applicable.

#### 14.2. UN proper shipping name

Not applicable.

#### 14.3. Transport hazard class(es)

No transport warning sign required.

#### 14.4. Packing group

Not applicable.

#### 14.5. Environmental hazards

##### **Environmentally hazardous substance/marine pollutant**

No.

#### 14.6. Special precautions for user

Not applicable.

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

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78  
and the IBC Code

### SECTION 15: Regulatory information

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

##### **National regulations**

Health and Safety at Work etc. Act 1974 (as amended).  
The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].  
EH40/2005 Workplace exposure limits.

##### **EU legislation**

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).  
Commission Regulation (EU) No 2015/830 of 28 May 2015.  
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

##### **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



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### EU - EINECS/ELINCS

None of the ingredients are listed or exempt.

### SECTION 16: Other information

<b>Abbreviations and acronyms used in the safety data sheet</b>	<p>ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.</p> <p>ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.</p> <p>RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.</p> <p>IATA: International Air Transport Association.</p> <p>ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.</p> <p>IMDG: International Maritime Dangerous Goods.</p> <p>CAS: Chemical Abstracts Service.</p> <p>ATE: Acute Toxicity Estimate.</p> <p>LC<sub>50</sub>: Lethal Concentration to 50 % of a test population.</p> <p>LD<sub>50</sub>: Lethal Dose to 50% of a test population (Median Lethal Dose).</p> <p>EC<sub>50</sub>: 50% of maximal Effective Concentration.</p> <p>PBT: Persistent, Bioaccumulative and Toxic substance.</p> <p>vPvB: Very Persistent and Very Bioaccumulative.</p>
<b>General information</b>	This SDS is not mandated under REACH Regulation (EC) No 1907/2006 and is provided for information only.
<b>Key literature references and sources for data</b>	Source: European Chemicals Agency, <a href="http://echa.europa.eu/">http://echa.europa.eu/</a>
<b>Classification procedures according to Regulation (EC) 1272/2008</b>	: Calculation method.
<b>Training advice</b>	Read and follow manufacturer's recommendations. Only trained personnel should use this material.
<b>Revision comments</b>	Full revision
<b>Revision date</b>	27/09/2017
<b>Revision</b>	6
<b>Supersedes date</b>	29/04/2016
<b>SDS number</b>	10677
<b>SDS status</b>	Approved.
<b>Risk phrases in full</b>	Not classified.

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