SAFETY DATA SHEET
SULPHURIC ACID 0.05M

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

1.1. Product identifier

Product name SULPHURIC ACID 0.05M
Product number 1111

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.

1.3. Details of the supplier of the safety data sheet

Supplier
Reagent Chemical Services
11b - 13 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 Not Classified
Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC)

2.2. Label elements

Hazard statements NC Not Classified

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients
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3.1. Substances
Product name
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SECTION 4: First aid measures

4.1. Description of first aid measures

General information
Get medical attention if any discomfort continues. Show this Safety Data Sheet to the medical personnel.

Inhalation
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.

Ingestion
Rinse mouth thoroughly with water. Remove any dentures. 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. Loosen tight clothing such as collar, tie or belt.

Skin contact
Remove affected person from source of contamination. Rinse immediately with plenty of water.

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.

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
Prolonged inhalation of high concentrations may damage respiratory system.

Ingestion
May cause irritation. Gastrointestinal symptoms, including upset stomach. Nausea, vomiting.

Skin contact
Prolonged contact may cause dryness of the skin.

Eye contact
May cause temporary eye irritation.

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

Notes for the doctor
Treat symptomatically.

Specific treatments
No special treatment required.

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.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products
Thermal decomposition or combustion products may include the following substances: Harmful gases or vapours. Oxides of sulphur.

5.3. Advice for firefighters
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Protective actions during firefighting

Avoid breathing fire gases or vapours. Evacuate area. 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.

Special protective equipment for firefighters

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.

6.2. Environmental precautions

Environmental precautions
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. 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. 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. Flush contaminated area with plenty of water. Wash thoroughly after dealing with a spillage. The requirements of the local water authority must be complied with if contaminated water is flushed directly to the sewer. 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

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
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.

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: Alkalis.

Storage class
Chemical storage. Acids.
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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.
Usage description Use product under conditions described in this datasheet. Avoid exposure of operators and others who may be affected by its use. Avoid overuse of the product which would create waste and potential spillages. Always use recommended personal protective equipment. Only use the product for its intended use in a safe manner, do not use for other purposes.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters
Biological limit values No information available., No information available., No information available.
DNEL Workers - Inhalation; Short term local effects: 0.1 mg/m³
Workers - Inhalation; Short term local effects: 0.05 mg/m³
PNEC - Fresh water; 0.003 mg/l
- Marine water; 0.0 mg/l
- STP; 8.8 mg/l
- Sediment; 0.002 (freshwater) mg/kg
- Sediment; 0.002 (marine water) mg/kg

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 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.
Respiratory protection Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Provide adequate ventilation. Large Spillages: If ventilation is inadequate, suitable respiratory protection must be worn.
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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.

Odour
Odourless.

pH
pH (concentrated solution): ~1 Not determined.

Melting point
Approx. 0°C

Initial boiling point and range
Approx. 100°C @ 760 mm Hg

Flash point
Not applicable.

Evaporation rate
Not determined.

Evaporation factor
Not determined.

Flammability (solid, gas)
No

Upper/lower flammability or explosive limits
Not applicable.

Vapour pressure
Not determined.

Vapour density
Not determined.

Relative density
Approx. 1.0 @ 20°C

Solubility(ies)
Miscible with water.

Partition coefficient
Not relevant.

Auto-ignition temperature
Not applicable.

Decomposition Temperature
Not determined.

Explosive properties
Not considered to be explosive.

Explosive under the influence of a flame
No

Oxidising properties
Does not meet the criteria for classification as oxidising.

9.2. Other information
All available information has been included in section 9.1.

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity
The following materials may react with the product: Acids. Alkalis. Oxidising agents.

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
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Possibility of hazardous reactions  
May generate heat. In contact with some metals can generate hydrogen gas, which can form explosive mixtures with air.

10.4. Conditions to avoid  
Conditions to avoid  
Avoid heat. Freezing.

10.5. Incompatible materials  
Materials to avoid  

10.6. Hazardous decomposition products  
Hazardous decomposition products  
Does not decompose when used and stored as recommended.

SECTION 11: Toxicological information

11.1. Information on toxicological effects  
Toxicological effects  
Not regarded as a health hazard under current legislation.

Acute toxicity - oral  
2,140.0

Acute toxicity oral (LD₅₀ mg/kg)  
Species  
Rat

Notes (oral LD₅₀)  
Based on available data the classification criteria are not met.

Acute toxicity - dermal  

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

Acute toxicity - inhalation  
0.85

Acute toxicity inhalation (LC₅₀ vapours mg/l)  
Species  
Rat

Notes (inhalation LC₅₀)  
Based on available data the classification criteria are not met.

ATE inhalation (vapours mg/l)  
0.85

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

Human skin model test  
Scientifically unjustified.

Extreme pH  
≤ 2 Corrosive.

Serious eye damage/irritation  
Serious eye damage/irritation  
Based on available data the classification criteria are not met.

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  
Scientifically unjustified.

Carcinogenicity
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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.

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

Specific target organ toxicity - single exposure
STOT - single exposure
Not classified as a specific target organ toxicant after a single exposure.

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
No specific health hazards known. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
Prolonged inhalation of high concentrations may damage respiratory system.

Ingestion
May cause irritation. Gastrointestinal symptoms, including upset stomach. Nausea, vomiting.

Skin contact
Prolonged contact may cause dryness of the skin.

Eye contact
May cause temporary eye irritation.

Route of entry
Ingestion Inhalation Skin and/or eye contact

Target organs
No specific target organs known.

SECTION 12: Ecological Information

Ecotoxicity
The product may affect the acidity (pH) of water which may have hazardous effects on aquatic organisms.

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

Acute toxicity - fish
LC50, 96 hours: > 16 mg/l, Lepomis macrochirus (Bluegill)

Acute toxicity - aquatic invertebrates
EC₅₀, 48 hours: > 100 mg/l, Daphnia magna

Acute toxicity - aquatic plants
EC₅₀, 72 hours: > 100 mg/l, Desmodesmus subspicatus

Acute toxicity - microorganisms
NOEC, : 26000 mg/l, Activated sludge

Acute toxicity - terrestrial
Not available.

Chronic toxicity - fish early life stage
NOEC, 65 days: 0.025 mg/l,

Short term toxicity - embryo and sac fry stages
Not available.

Chronic toxicity - aquatic invertebrates
NOEC, 35 days: 0.15 mg/l, Tanytarsus dissimilis
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12.2. Persistence and degradability

Persistence and degradability  The product contains inorganic substances which are not biodegradable.
Phototransformation  Not relevant.
Stability (hydrolysis)  Not relevant.
Biodegradation  The product contains mainly inorganic substances which are not biodegradable.
Biological oxygen demand  No information available.
Chemical oxygen demand  No information available.

12.3. Bioaccumulative potential

Bioaccumulative potential  No data available on bioaccumulation.
Partition coefficient  Not relevant.

12.4. Mobility in soil

Mobility  The product is water-soluble and may spread in water systems. The product is non-volatile.
Adsorption/desorption coefficient  Scientifically unjustified.
Henry’s law constant  Not available.
Surface tension  Scientifically unjustified.

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.

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

Not applicable.

14.2. UN proper shipping name
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Not applicable.

14.3. Transport hazard class(es)
Not applicable.

Transport labels
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
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.

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

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

Guidance
- Workplace Exposure Limits EH40.

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
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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.

General information
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

Training advice
Only trained personnel should use this material.

Revision comments
General rewrite

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