

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

1.1 Product identifier

Product Name Purachem FRB21

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

Identified uses Fast acting, non-oxidising biocide formulated to rapidly neutralise a broad spectrum of bacteria and algae found in cooling and heating systems.

Uses advised against This product is not recommended for any industrial, professional or consumer use other than the identified uses above.

1.3 Details of the supplier of the Safety Data Sheet

Supplier Hydratech
Division of Liquitherm Technologies Group Ltd
Europa Way,
Swansea West Business Park,
Forestfach,
Swansea
SA5 4AJ

+44 (0) 1792 586800
info@hydratech.co.uk

1.4 Emergency telephone number

Emergency telephone number 01792 586800
Opening Hours 08:30 - 17:00

First aid advice number For emergencies that occur outside of office opening hours that pose a threat to human health, the environment or require immediate first aid advice call:
+44 (0) 1792 572296

Note This number is for emergencies only.

2 Section 2: Hazards identification

2.1 Classification of the substance or mixture

Classification - Regulation (EC) No. 1272/2008 (CLP)

Physical and chemical hazards Not classified as a physical or chemical hazard
Human health Eye Irrit. 2 - H319, Skin Sens. 1 - H317
Environment Aquatic Chronic 3 - H412

2.2 Label elements

EC No.

N/A

Labelling - Regulation (EC) No. 1272/2008 (CLP)

Pictograms



Signal Word

Warning

Hazard statements

H317 - May cause an allergic skin reaction.

H319 - Causes serious eye irritation.

H412 - Harmful to aquatic life with long lasting effects.

Precuatory statements

P264 - Wash hands thoroughly after handling.

P272 - Contaminated work clothing should not be allowed outside of the workplace.

P273 - Avoid release to the environment.

P280 - Wear protective clothing/protective gloves/eye protection/face protection.

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 - If eye irritation persists: Get medical advice/attention.

2.3 Other hazards

This product does not meet the PBT/vPvB criteria of REACH, annex XIII.

3 Section 3: Composition/information on ingredients

3.2 Mixtures

| | | |
|----------|-------------------------|-----------------------|
| 1 | Component - THPS | |
| | Concentration (% w/v) | <3% |
| | EC No. | 259-709-0 |
| | CAS No. | 55566-30-8 |
| | Reach registration No. | 01-2120761569-40-XXXX |

Classification - Regulation (EC) No. 1272/2008 (CLP)

Acute Tox. 4 - H302
Skin Sens. 1 - H317
Eye Dam. 1 - H318
Aquatic Acute 1 - H400
Aquatic Chronic 2 - H411
Acute Tox. 3 - H331

4.1 Description of first aid measures

| | |
|---------------------|---|
| General Information | When safe to do so remove the victim from the source of exposure giving consideration as to whether this may cause further discomfort to the victim. |
| Inhalation | Move the affected person to fresh air at once. Keep warm in a position comfortable for breathing. If breathing becomes difficult, properly trained personnel may assist the victim by supplying oxygen to ease breathing. Get medical attention if any discomfort continues or if victim feels unwell. |
| Ingestion | Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Get medical attention if any discomfort continues or if victim feels unwell. |
| Skin Contact | Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if any discomfort continues. |
| Eye Contact | Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues. |

4.2 Most important symptoms and effects, both acute and delayed

| | |
|---------------------|---|
| General Information | The following symptoms are listed in case of exposure to the 100% neat product. |
| Inhalation | Inhalation of vapours may cause irritation of the upper respiratory tract. |
| Ingestion | May cause discomfort to the stomach if swallowed. |
| Skin Contact | Contact may cause irritation of the skin. Contact may also cause an allergic skin reaction. |
| Eye Contact | Direct contact will cause serious irritation/soreness and reddening - rinse immediately with water. |

4.3 Indication of any immediate medical attention and special treatment needed

No specific recommendations given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, get medical attention promptly and present a copy of this Safety Data Sheet.

Notes for the doctor

As per Section 3 of this Safety Data Sheet, product contains 2.5-3% wt/wt tetrakis(hydroxymethyl)phosphonium sulphate - treat symptoms accordingly.

5 Section 5: Firefighting measures

5.1 Extinguishing media

Extinguish with alcohol-resistant foam, carbon dioxide (CO₂), dry chemicals, sand and dolomite or water fog.

5.2 Special hazards arising from the substance or mixture

| | |
|------------------------------------|--|
| Specific Hazards | When heated and in the case of a fire, harmful/irritant vapours/gases such as oxides of carbon, sulphur and phosphorous may be formed. |
| Unusual fire and explosion hazards | No known unusual fire/explosion hazards. |

5.3 Advice for firefighters

| | |
|--|--|
| Protective actions during firefighting | Move containers away from fire area if this can be done without risk. Keep people away, isolate the fire and deny unnecessary entry. Use water fog to keep fire-exposed containers cool and disperse vapours. Runoff water should be prevented from entering sewers and watercourses. |
| Specialist protective equipment for firefighters | Wear positive-pressure self-contained breathing apparatus (SCBA) and full protective clothing. |

6 Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions

Avoid flames, sparks, heat and smoking.
In the case of inadequate ventilation, use respiratory protection.

Protective Equipment

Wear protective clothing as described in Section 8 of this Safety Data Sheet.

Emergency Procedures

Stop leak/release if possible to do so without risk.
Extinguish all ignition sources if safe to do so.
Warn everybody of potential danger and evacuate if necessary.

6.2 Environmental precautions

Do not discharge into drains, water courses or onto the ground.

Product classified as harmful to aquatic life with long lasting effects, care should be taken when handling and should not be stored where accidental spillage could release this product into the environment.

Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.

6.3 Methods and material for containment and cleaning up

Absorb spillage with inert, damp, non-combustible material, then flush the contaminated area with water.

Containers with collected spillage should be appropriately labelled with the correct contents and hazard labels.

Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.

6.4 Reference to other sections

Wear protective clothing as described in Section 8 of this Safety Data Sheet. Collect and dispose of spillage as indicated in Section 13.

7 Section 7: Handling and storage

7.1 Precautions for safe handling

Avoid spilling and contact with the skin and the eyes as well as direct inhalation of sprays and mists.

Wear suitable eye protection.

Provide good ventilation.

Do not eat, drink or smoke in work areas and wash hands after handling this product.

7.2 Conditions for safe storage, including any incompatibilities

Store in tightly-closed, original containers.

Keep separate from food, feedstuffs, fertilisers and other sensitive material.

Do not store near heat sources or expose to high temperatures.

Keep away from heat, sparks and open flame.

7.3 Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

8 Section 8: Exposure controls/personal protection

8.1 Control parameters

| Name | STD | TWA-8Hrs | STEL-15Min |
|------|-----|---------------|---------------|
| THPS | WEL | Not available | Not available |

DNEL

No DNEL data available.

PNEC

No PNEC data available.

8.2 Exposure controls



Technical procedures

Engineering measures

Methods to prevent or control exposure are preferred. Provide adequate ventilation to minimise the risk of inhalation of sprays and mists.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practices. Wash hands after handling this product and at the end of each work shift. Routinely wash work clothing and personal protective equipment to remove possible contaminants.

Respiratory equipment

If ventilation is inadequate, suitable respiratory protection must be worn.

Hand protection

PVC/butyl rubber/neoprene gloves are recommended.

Eye protection

Wear approved chemical goggles or face shield.

Skin Protection

Wear rubber apron or protective clothing in case of contact.

Other Protection

Wear suitable protective clothing/footwear as protection against splashing or contamination.

Thermal Hazards

No specific measures required.

Environmental Exposure Controls

Product classified as harmful to aquatic life with long lasting effects, care should be taken when handling and should not be stored where accidental spillage could release this product into the environment.

9 Section 9: Physical and chemical properties

Section 9: Physical and chemical properties

| | |
|--|--|
| Appearance | Clear liquid |
| Colour | Pale yellow |
| Odour | Non-pungent but characteristic aroma |
| Odour Threshold | Not applicable |
| pH | 3-6 |
| Melting point / Pour point | <-20°C |
| Initial boiling point | >105°C |
| Flash point | No test data available |
| Evaporation Rate | No test data available |
| Flammability | Product not classified as flammable |
| Flammability / explosion limits | No test data available |
| Vapour pressure | No test data available |
| Vapour density (air = 1) | No test data available |
| Relative density of the mixture | 1.01 - 1.1 |
| Solubility | Soluble in water |
| Partition coefficient: n-octanol / water | No test data available |
| Auto-ignition temperature | No test data available |
| Decomposition temperature | No test data available |
| Viscosity | See product data sheet |
| Explosive properties | Not applicable - product is not classified as an explosive |
| Oxidising properties | Not applicable - product is not classified as an oxidising agent |

9.2 Other information

Not determined.

10 Section 10: Stability and reactivity

10.1 Reactivity

There are no known reactivity hazards associated with this product.

10.2 Chemical stability

Stable at normal ambient temperatures and when used as recommended.

10.3 Possibility of hazardous reactions

There are no known hazardous reactions associated with this product.

10.4 Conditions to avoid

Avoid temperatures >160°C for prolonged periods of time as above this temperature thermal decomposition of this product will occur.

10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products

Upon thermal decomposition oxides of carbon, sulphur and phosphorous may be formed. Toxic fumes of phosphine may also be evolved.

11 Section 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute toxicity - oral route

Using the additivity formula for acute toxicity given in Annex I to Regulation (EC) No. 1272/2008 an LD50, oral, rat > 2000 mg/kg bw has been calculated. Therefore, the product is not classified as acutely toxic via the oral route.

Acute toxicity - dermal route

THPS is not classified as toxic via the dermal route.

Acute toxicity - inhalation

Using the additivity formula for acute toxicity given in Annex I of Regulation (EC) No. 1272/2008 an LC50, inhalation, rat > 20 mg/L has been calculated. Therefore, this product is not classified as acutely toxic by inhalation.

Skin corrosion/ irritation

Skin irritation is not expected when this product is used/handled correctly.

Serious eye damage/ irritation

Product is classified as "Eye Irrit. 2 - H319" direct eye contact will cause irritation and reddening of the eyes. Immediate first aid is advised.

Respiratory/ skin sensitisation

Product may cause an allergic reaction by direct contact.

Germ cell mutagenicity

Product is not expected to be mutagenic.

Carcinogenicity

Product is not expected to be carcinogenic.

Reproductive toxicity

Product is not expected to damage the reproductive system or harm a developing fetus.

Evaluation of CMR properties

No test data available.

STOT-single exposure

No test data available.

STOT-repeated exposure

No test data available.

Aspiration hazard

No test data available.

General information

See Section 4.2 of this Safety Data Sheet.

Inhalation

Inhalation of vapours may cause irritation of the upper respiratory tract.

Ingestion

May cause discomfort to the stomach if swallowed.

Skin contact

Contact may cause irritation of the skin.

Eye contact

Contact may also cause an allergic skin reaction.

Direct contact will cause serous irritation/soreness and reddening - rinse immediately with water.

12 Section 12: Ecological information

Ecotoxicity

Product classified as Aquatic Chronic 3 - H412.

The following toxicity values are for a 25-35% aqueous solution of THPS which is the active ingredient in this mixture.

12.1 Toxicity

| | |
|---------------------------------|-------------|
| LC50, 96 hours, fish: | >119.0 mg/L |
| EC50, 48 hours, daphnia magna: | >19.4mg/L |
| EC50, 96 hours, aquatic plants: | >0.20 mg/L |

12.2 Persistence and degradability

THPS, the active ingredient in this product is readily biodegradable.

12.3 Bioaccumulative potential

Will not bio-accumulate.
Partition coefficient - not determined.

12.4 Mobility in soil

This product is water soluble so is expected to be mobile in soil.

12.5 Results of PBT and vPvB assessment

This product does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6 Other adverse effects

Not determined.

13 Section 13: Disposal considerations

Section 13: Disposal considerations

General information

Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with Local Waste Disposal Authority.

Disposal methods

Dispose of waste and residues in accordance with local authority and/or local sewage treatment plant requirements.

14 Section 14: Transport information

14.1 UN number

Product not hazardous for transport - no information required.

14.2 UN proper shipping name

Product not hazardous for transport - no information required.

14.3 Transport hazard class(es)

Product not hazardous for transport - no information required.

Transport labels

Product not hazardous for transport - no information required.

14.4 Packing group

Product not hazardous for transport - no information required.

14.5 Environmental hazards

Product not classed as an environmentally hazardous substance or marine pollutant.

14.6 Special precautions for user

Product not hazardous for transport - no information required.

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

Product not hazardous for transport - no information required.

15 Section 15: Regulatory information

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

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, incorporating all amendments up to, and including, Regulation (EC) No 588/2018 and Regulation (EC) No 589/2018.

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, incorporating all amendments up to, and including, Regulation (EC) No 776/2017.

Guidance notes

CHIP for everyone HSG228. Approved Classification and Labelling Guide (Sixth edition) L131. Safety Data Sheets for substances and preparations.

15.2 Chemical safety assessment

No chemical safety assessment for this mixture has been carried out.

16 Section 16: Other information

| | |
|-------------------|------------------------------------|
| Issued by | Hydratech |
| Revision Date | 11/09/2018 |
| Approved by | Stephen Hickson |
| Revision Comments | Review in line with CLP regulation |

Hazard statements in full

The following hazard statements are the hazard statements 'in full' for the components of this mixture and do not necessarily represent the final classifications of this product.

H302 - Harmful if swallowed.

H317 - May cause an allergic skin reaction.

H318 - Causes serious eye damage.

H400 - Very toxic to aquatic life.

H411 - Toxic to aquatic life with long-lasting effects.

H331 - Toxic if inhaled.

Further classification and composition comments

No further classification or composition comments required.

(i) Indication of changes

Safety Data Sheet updated to comply with the new requirements as set out in Regulation (EC) No. 1272/2008 (CLP).

(ii) Abbreviations and acronyms

bw: bodyweight

CAS No: Chemical Abstracts Service number

CLP: Classification Labelling and Packaging Regulation

DNEL: Derived No-Effect Level

EC: European Commission

EC No: European Chemical number: EINECS, ELINCS or NLP

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

LC50: Lethal Concentration, 50%

LD50: Median Lethal Dose

PBT: Persistent, Bioaccumulative & Toxic

PNEC: Predicted No Effect Concentration

REACH: Registration, Evaluation, Authorisation & restrictions of Chemicals

SDS: Safety Data Sheet

vPvB: Very Persistent and Very Bioaccumulative

WEL: Workplace Exposure Limit

(iii) Training advice

Product should only be handled by trained operators.

(iv) Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give advice about the safe handling of the product named in this Safety Data Sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with products or in the case of processing, the information on this Safety Data Sheet is not necessarily valid for the new made-up material.