SAFETY DATA SHEET
FOAM SAMPLES: PROTEIN

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

1.1. Product identifier

Product name: FOAM SAMPLES: PROTEIN

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

Use of substance / mixture: Mixture of Protein based Fire Fighting Foam Concentrates and diluted/produced samples for laboratory testing and evaluation. The information included on this document is only intended to cover a broad range of potential physical characteristics and properties for the many kinds of foam concentrates in circulation on the market.

1.3. Details of the supplier of the safety data sheet

Company name: Oil Techics Ltd
Lintons Business Park
Gourdon
Aberdeenshire
DD10 0NH
United Kingdom, Scotland

Tel: +44 (0) 1561 361515
Email: info@oiltechnics.com

1.4. Emergency telephone number

Emergency tel: +44 (0) 1561 361515
(office hours only)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CHIP: Xi: R36; Sens.: R43; -: R52/53
Classification under CLP: Aquatic Chronic 3: H412; Eye Irrit. 2: H319; Skin Sens. 1: H317; -: EUH208

Most important adverse effects: Irritating to eyes. May cause sensitisation by skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

Label elements under CLP:

Hazard statements: EUH208: Contains 1,2-benzisothiazolin-3-one. May produce an allergic reaction.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H412: Harmful to aquatic life with long lasting effects.

Signal words: Warning

Hazard pictograms: GHS07: Exclamation mark

[cont...]
Precautionary statements:
P264: Wash hands thoroughly after handling.
P272: Contaminated work clothing should not be allowed out of the workplace.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Label elements under CHIP:

Hazard symbols: Irritant.

Risk phrases: R36: Irritating to eyes.
R43: May cause sensitisation by skin contact.
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases: S24: Avoid contact with skin.
S37: Wear suitable gloves.

Precautionary phrases: Contains 1,3,5-tris(2-hydroxyethyl)hexahydro-1,3,5-triazine. May produce an allergic reaction.

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients:

2-METHYLPENTANE-2,4-DIOL

<table>
<thead>
<tr>
<th>EINECS</th>
<th>CAS</th>
<th>CHIP Classification</th>
<th>CLP Classification</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>203-489-0</td>
<td>107-41-5</td>
<td>Xi: R36/38</td>
<td>Eye Irrit. 2: H319; Skin Irrit. 2: H315</td>
<td>5-10%</td>
</tr>
</tbody>
</table>

2-(2-BUTOXYETHOXY)ETHANOL - REACH registered number(s): 01-2119475104-44

<table>
<thead>
<tr>
<th>EINECS</th>
<th>CAS</th>
<th>CHIP Classification</th>
<th>CLP Classification</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>203-961-6</td>
<td>112-34-5</td>
<td>Xi: R36</td>
<td>Eye Irrit. 2: H319</td>
<td>1-5%</td>
</tr>
</tbody>
</table>
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ZINC OXIDE
- 1314-13-2 N: R50/53 Aquatic Chronic 1: H410; Aquatic Acute 1: H400 <1%

1,3,5-TRIS(2-HYDROXYETHYL)HEXAHYDRO-1,3,5-TRIAZINE
225-208-0 4719-04-4 Xn: R22; Sens.: R43 Acute Tox. 4: H302; Skin Sens. 1: H317 <1%

Non-classified ingredients:
IRON (II) SULFATE (1:1) HEPTAHYDRATE

<table>
<thead>
<tr>
<th>EINECS</th>
<th>CAS</th>
<th>CHIP Classification</th>
<th>CLP Classification</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>231-753-5</td>
<td>7782-63-0</td>
<td>Xn: R22; Xi: R36/38</td>
<td>Acute Tox. 4: H302; Eye Irrit. 2: H319; Skin Irrit. 2: H315</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

WATER
- 7732-18-5 - - 40-60%

SODIUM CHLORIDE
231-598-3 7647-14-5 - - 1-5%

1,2 PROPYANEDIOL
- 57-55-6 - - 1-5%

2-METHYLISOTHIAZOL-3(2H)-ONE
220-239-6 2682-20-4 Xn: R22; C: R34; T: R23; Sens.: R43; N: R50 - <1%

1,2-BENZISOTHIAZOLIN-3-ONE
220-120-9 2634-33-5 Xn: R22; Xi: R38; Xi: R41; Sens.: R43; N: R50 Acute Tox. 4: H302; Skin Irrit. 2: H315; Eye Dam. 1: H318; Skin Sens. 1: H317; Aquatic Acute 1: H400 <1%

Contains: Fluorinated carbon molecules as the primary (fluoro) surfactant.
Hydrolysed protein solution

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Remove all contaminated clothes and footwear immediately unless stuck to skin. Wash immediately with plenty of soap and water.

Eye contact: Bathe the eye with running water for 15 minutes. Consult a doctor.

Ingestion: Wash out mouth with water. Consult a doctor.

Inhalation: Remove casualty from exposure ensuring one's own safety whilst doing so. Consult a doctor.

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

Skin contact: There may be irritation and redness at the site of contact.

[cont...]
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Eye contact: There may be irritation and redness. The eyes may water profusely.
Ingestion: There may be soreness and redness of the mouth and throat.
Inhalation: There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

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

Immediate / special treatment: Eye bathing equipment should be available on the premises.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to section 8 of SDS for personal protection details. If outside do not approach from downwind. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Do not handle in a confined space. Avoid the formation or spread of mists in the air.
7.2. Conditions for safe storage, including any incompatibilities

**Storage conditions:** Store in cool, well ventilated area. Keep container tightly closed. The floor of the storage room must be impermeable to prevent the escape of liquids.

7.3. Specific end use(s)

**Specific end use(s):** No data available.

Section 8: Exposure controls/personal protection

8.1. Control parameters

**Hazardous ingredients:**

2-METHYL-PENTANE-2,4-DIOL

**Workplace exposure limits:**

<table>
<thead>
<tr>
<th>State</th>
<th>8 hour TWA</th>
<th>15 min. STEL</th>
<th>8 hour TWA</th>
<th>15 min. STEL</th>
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</thead>
<tbody>
<tr>
<td>UK</td>
<td>123 mg/m³</td>
<td>123 mg/m³</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

2-(2-BUTOXYETHOXY)ETHANOL

| UK    | 67.5 mg/m³ | 101.2 mg/m³ | -          | -            |

ZINC OXIDE

| UK    | 5 mg/m³    | 10 mg/m³    | -          | -            |

**DNEL/PNEC Values**

**DNEL / PNEC** No data available.

8.2. Exposure controls

**Engineering measures:** Ensure there is sufficient ventilation of the area. The floor of the storage room must be impermeable to prevent the escape of liquids.

**Respiratory protection:** Self-contained breathing apparatus must be available in case of emergency.

**Hand protection:** Protective gloves.

**Eye protection:** Safety glasses. Ensure eye bath is to hand.

**Skin protection:** Protective clothing.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

**State:** Liquid

**Colour:** Brown

**Odour:** Unpleasant

**Viscosity:** Non-viscous

**Boiling point/range °C:** >100

**Flash point °C:** >93

**pH:** 6-8.8

[cont...]

9.2. Other information

Other information: Potential for mixture of different foam concentrate types resulting in varying physical properties.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Conditions to avoid: Heat.

10.5. Incompatible materials

Materials to avoid: Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes.

Section 11: Toxicological information

11.1. Information on toxicological effects

Hazardous ingredients:

2-METHYLPENTANE-2,4-DIOL

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Species</th>
<th>Route</th>
<th>LD50</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-METHYLPENTANE-2,4-DIOL</td>
<td>IPR</td>
<td>RAT</td>
<td>LDLO</td>
<td>1500 mg/kg</td>
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<tr>
<td>2-METHYLPENTANE-2,4-DIOL</td>
<td>ORL</td>
<td>MUS</td>
<td>LD50</td>
<td>3097 mg/kg</td>
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<tr>
<td>2-METHYLPENTANE-2,4-DIOL</td>
<td>ORL</td>
<td>RAT</td>
<td>LD50</td>
<td>3700 mg/kg</td>
</tr>
</tbody>
</table>

2-(2-BUTOXYETHOXY)ETHANOL

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Species</th>
<th>Route</th>
<th>LD50</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-(2-BUTOXYETHOXY)ETHANOL</td>
<td>ORL</td>
<td>MUS</td>
<td>LD50</td>
<td>6050 mg/kg</td>
</tr>
<tr>
<td>2-(2-BUTOXYETHOXY)ETHANOL</td>
<td>ORL</td>
<td>RAT</td>
<td>LD50</td>
<td>4500 mg/kg</td>
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</tbody>
</table>

ZINC OXIDE

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Species</th>
<th>Route</th>
<th>LD50</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZINC OXIDE</td>
<td>IPR</td>
<td>RAT</td>
<td>LD50</td>
<td>240 mg/kg</td>
</tr>
<tr>
<td>ZINC OXIDE</td>
<td>ORL</td>
<td>MUS</td>
<td>LD50</td>
<td>7950 mg/kg</td>
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</tbody>
</table>
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1,3,5-TRIS(2-HYDROXYETHYL)HEXAHYDRO-1,3,5-TRIAZINE

<table>
<thead>
<tr>
<th>Effect</th>
<th>Route</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritation</td>
<td>OPT</td>
<td>Hazardous: calculated</td>
</tr>
<tr>
<td>Sensitisation</td>
<td>DRM</td>
<td>Hazardous: calculated</td>
</tr>
</tbody>
</table>

Relevant effects for mixture:

Symptoms / routes of exposure

Skin contact: There may be irritation and redness at the site of contact.

Eye contact: There may be irritation and redness. The eyes may water profusely.

Ingestion: There may be soreness and redness of the mouth and throat.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values: No data available.

12.2. Persistence and degradability

Persistence and degradability: Biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: Bioaccumulation potential.

12.4. Mobility in soil

Mobility: Readily absorbed into soil.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: Toxic to aquatic organisms. Toxic to soil organisms.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

[cont...]
Section 14: Transport information

**Transport class:** This product does not require a classification for transport.

Section 15: Regulatory information

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

15.2. Chemical Safety Assessment

Section 16: Other information

**Other information:** This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

* indicates text in the SDS which has changed since the last revision.

**Phrases used in s.2 and s.3:**

- EUH208: Contains <name of sensitising substance>. May produce an allergic reaction.
- H302: Harmful if swallowed.
- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H318: Causes serious eye damage.
- H319: Causes serious eye irritation.
- H400: Very toxic to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.
- H412: Harmful to aquatic life with long lasting effects.
- R22: Harmful if swallowed.
- R23: Toxic by inhalation.
- R34: Causes burns.
- R36/38: Irritating to eyes and skin.
- R36: Irritating to eyes.
- R38: Irritating to skin.
- R41: Risk of serious damage to eyes.
- R43: May cause sensitisation by skin contact.
- R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R50: Very toxic to aquatic organisms.
- R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Legend to abbreviations:**

- PNEC = predicted no effect level
- DNEL = derived no effect level
- LD50 = median lethal dose
- LC50 = median lethal concentration
- EC50 = median effective concentration
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IC50 = median inhibitory concentration
dw = dry weight
bw = body weight
cc = closed cup
oc = open cup
MUS = mouse
GPG = guinea pig
RBT = rabbit
HAM = hamster
HMN = human
MAM = mammal
PGN = pigeon
IVN = intravenous
SCU = subcutaneous
SKN = skin
DRM = dermal
OCC = ocular/corneal
PCP = physico-chemical properties

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product. Oil Technics Ltd takes no responsibility for the samples sent along with this SDS in shipment. This SDS is intended for use only as a substitute to the SDS supplied by the foam concentrate manufacturer. If an SDS is available from the manufacturer of the foam, it should be used in place of this SDS.