

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

Product form : Mixture  
Product name : Hi-Foam FP  
Product code : 4-1-SYN-3-F15  
Type of product : Firefighting foam concentrate (High-Ex)

**1.2. Relevant identified uses of the substance or mixture and uses advised against****1.2.1. Relevant identified uses**

Main use category : Industrial use, Professional use  
Industrial/Professional use spec : Industrial  
For professional use only  
Use of the substance/mixture : Firefighting foam concentrate

**1.2.2. Uses advised against**

No additional information available

**1.3. Details of the supplier of the safety data sheet**

Kerr Fire Ltd  
Station Road  
LA2 7NA Bentham  
United Kingdom  
T +44(0) 1524 264 037  
[support@kerrfire.co.uk](mailto:support@kerrfire.co.uk), [www.kerrfire.co.uk](http://www.kerrfire.co.uk)

**1.4. Emergency telephone number**

Emergency number : +44(0) 1524 264000 (Standard office hours: Monday to Friday 8:30am - 4:30pm GMT)  
Contact person: EH&S Manager

Country/Area	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH	0344 892 0111	Only for healthcare professionals

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Skin corrosion/irritation, Category 2 H315  
Serious eye damage/eye irritation, Category 2 H319  
Specific target organ toxicity – Repeated exposure, Category 2 H373  
Hazardous to the aquatic environment – Chronic Hazard, Category 3 H412

Full text of H- and EUH-statements: see section 16

**Adverse physicochemical, human health and environmental effects**

No additional information available

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### 2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



GHS07

GHS08

Signal word (CLP)

: Warning

Contains

: Ethane-1,2-diol

Hazard statements (CLP)

: H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H373 - May cause damage to organs (kidneys) through prolonged or repeated exposure (if swallowed).

H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements (CLP)

: P264 - Wash hands thoroughly after handling.

P280 - Wear eye protection, protective clothing, protective gloves.

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.

P332+P313 - If skin irritation occurs: Get medical advice/attention.

P362+P364 - Take off contaminated clothing and wash it before reuse.

### 2.3. Other hazards

PBT: not relevant – no registration required

vPvB: not relevant – no registration required

Contains no PBT and/or vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	2-butoxyethanol (111-76-2), Sodium laureth sulphate (68891-38-3), Ethane-1,2-diol (107-21-1), 1-dodecanol (112-53-8), 1-tetradecanol (112-72-1)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	2-butoxyethanol (111-76-2), Sodium laureth sulphate (68891-38-3), Ethane-1,2-diol (107-21-1), 1-dodecanol (112-53-8), 1-tetradecanol (112-72-1)

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or substance(s) are not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-butoxyethanol substance with national workplace exposure limit(s) (BE, FR, GB, NL); substance with a Community workplace exposure limit	CAS-No.: 111-76-2 EC-No.: 203-905-0 EC Index-No.: 603-014-00-0 REACH-no: 01-2119475108-36	25 – 50	Acute Tox. 3 (Inhalation), H331 Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319

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Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Ethane-1,2-diol substance with national workplace exposure limit(s) (BE, FR, GB, NL); substance with a Community workplace exposure limit	CAS-No.: 107-21-1 EC-No.: 203-473-3 EC Index-No.: 603-027-00-1 REACH-no: 01-2119456816- 28	10 – 25	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Sodium laureth sulphate	CAS-No.: 68891-38-3 EC-No.: 500-234-8 REACH-no: 01-2119488639- 16	4 – 10	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT RE 2, H373 Aquatic Chronic 3, H412
Butanedioic acid, 2(or 3)-sulfo-, 4-[2-[(1- oxododecyl)amino]ethyl] ester, sodium salt	CAS-No.: 75081-73-1 EC-No.: 939-648-2 REACH-no: 01-2119980061- 44	1 – 10	Skin Irrit. 2, H315 Eye Irrit. 2, H319
1-dodecanol	CAS-No.: 112-53-8 EC-No.: 203-982-0 REACH-no: 01-2119485976- 15	1 – 4	Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 2, H411
1-tetradecanol	CAS-No.: 112-72-1 EC-No.: 204-000-3 REACH-no: 01-2119485910- 33	0.1 – 1	Eye Irrit. 2, H319 Aquatic Chronic 1, H410

Specific concentration limits:		
Name	Product identifier	Specific concentration limits (%)
Sodium laureth sulphate	CAS-No.: 68891-38-3 EC-No.: 500-234-8 REACH-no: 01-2119488639- 16	(5 ≤ C < 10) Eye Irrit. 2, H319 (10 ≤ C < 100) Eye Dam. 1, H318

Full text of H- and EUH-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Wash with plenty of water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Immediately call a POISON CENTER/doctor.

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

Symptoms/effects	: Causes damage to organs.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.

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

Treat symptomatically.

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### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : No specific measures are necessary. This product is a fire extinguishing medium.  
Unsuitable extinguishing media : Not applicable.

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

Fire hazard : No fire hazard.

#### 5.3. Advice for firefighters

Firefighting instructions : Not applicable.  
Protection during firefighting : Not applicable.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

##### 6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if product enters sewers or public waters. Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

#### 6.4. Reference to other sections

8. Exposure controls/personal protection. 13. Disposal considerations.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin and eyes. Wear recommended personal protective equipment. Read and follow manufacturer's recommendations. Handle in accordance with good industrial hygiene and safety procedures. Read and follow the Safety Data Sheet (SDS) before use. Avoid breathing vapours.  
Hygiene measures : Wash hands thoroughly after handling.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container. Keep container tightly closed. Store at temperatures not exceeding 60°C (140°F) (intermittent). Protect from sunlight. Protect from freezing. Keep/Store away from incompatible materials.

#### 7.3. Specific end use(s)

Firefighting foam concentrate.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### 8.1.1 National occupational exposure and biological limit values

2-butoxyethanol (111-76-2)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	98 mg/m <sup>3</sup>
	20 ppm
IOEL STEL	246 mg/m <sup>3</sup>
	50 ppm
Belgium - Occupational Exposure Limits	
OEL TWA	98 mg/m <sup>3</sup>
	20 ppm
OEL STEL	246 mg/m <sup>3</sup>
	50 ppm
France - Occupational Exposure Limits	
VME (OEL TWA)	49 mg/m <sup>3</sup>
	10 ppm
VLE (OEL C/STEL)	246 mg/m <sup>3</sup>
	50 ppm
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	100 mg/m <sup>3</sup>
	20.4 ppm
TGG-15min (OEL STEL)	246 mg/m <sup>3</sup>
	50 ppm
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	123 mg/m <sup>3</sup>
	25 ppm
WEL STEL (OEL STEL)	246 mg/m <sup>3</sup>
	50 ppm
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	20 ppm
Ethane-1,2-diol (107-21-1)	
EU - Indicative Occupational Exposure Limit (IOEL)	
IOEL TWA	52 mg/m <sup>3</sup>
	20 ppm
IOEL STEL	104 mg/m <sup>3</sup>
	40 ppm
Belgium - Occupational Exposure Limits	
OEL TWA	52 mg/m <sup>3</sup>

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Ethane-1,2-diol (107-21-1)	
	20 ppm
OEL STEL	104 mg/m <sup>3</sup>
	40 ppm
France - Occupational Exposure Limits	
VME (OEL TWA)	52 mg/m <sup>3</sup>
	20 ppm
VLE (OEL C/STEL)	104 mg/m <sup>3</sup>
	40 ppm
Netherlands - Occupational Exposure Limits	
TGG-8u (OEL TWA)	52 mg/m <sup>3</sup> (damp)
	10 mg/m <sup>3</sup> (druppels)
	20 ppm (damp) 3.9 ppm (druppels)
TGG-15min (OEL STEL)	104 mg/m <sup>3</sup> (damp)
	40 ppm (damp)
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA)	10 mg/m <sup>3</sup>
	52 mg/m <sup>3</sup>
	20 ppm
WEL STEL (OEL STEL)	104 mg/m <sup>3</sup>
	40 ppm
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	25 ppm (Vapor fraction)
ACGIH OEL STEL	10 mg/m <sup>3</sup> (Inhalable fraction, Aerosol only)
	50 ppm (Vapor fraction)

### 8.1.2. Recommended monitoring procedures

No additional information available

### 8.1.3. Air contaminants formed

No additional information available

### 8.1.4. DNEL and PNEC

No additional information available

### 8.1.5. Control banding

No additional information available

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

#### Appropriate engineering controls:

Ensure adequate ventilation. Follow the exposure limits given on this material safety data sheet.

### 8.2.2. Personal protection equipment

#### Personal protective equipment:

Wear recommended personal protective equipment.

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### Personal protective equipment symbol(s):



#### 8.2.2.1. Eye and face protection

##### Eye protection:

Sealed safety goggles

#### 8.2.2.2. Skin protection

##### Skin and body protection:

Wear suitable protective clothing. Wear suitable protective clothing

##### Hand protection:

Wear protective gloves (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): nitrile rubber (NBR) - 0.2 mm coating thickness

#### 8.2.2.3. Respiratory protection

##### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment (recommended filter type A2/P2)

#### 8.2.2.4. Thermal hazards

##### Thermal hazard protection:

Wear thermal protective clothing, when necessary.

#### 8.2.3. Environmental exposure controls

##### Environmental exposure controls:

Contain spills. Prevent releases. Observe national regulations on emissions. Ensure all national/local regulations are observed.

##### Other information:

Do not eat, drink or smoke when using this product.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Colour	: Colourless.
Odour	: Characteristic.
Odour threshold	: Not available
Melting point	: Not available
Freezing point	: -13 °C
Boiling point	: Not available
Flammability	: Not available
Lower explosion limit	: Not available
Upper explosion limit	: Not available
Flash point	: > 100 °C
Auto-ignition temperature	: Not available
Decomposition temperature	: Not available
pH	: 6 – 8
Viscosity, kinematic	: 10 mm <sup>2</sup> /s
Solubility	: Not available
Partition coefficient n-octanol/water (Log Kow)	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: Not available
Density	: 1 – 1.02
Relative density	: Not available
Relative vapour density at 20°C	: Not available
Particle characteristics	: Not applicable

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### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No additional information available

#### 9.2.2. Other safety characteristics

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is stable and non reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Incompatible materials. Extremely high or low temperatures.

### 10.5. Incompatible materials

Alkali metals. Oxidizing agent. Water reactive substances.

### 10.6. Hazardous decomposition products

Carbon oxides. Sulphur oxides. Nitrogen oxides (NOx). Sodium oxides.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

2-butoxyethanol (111-76-2)	
LD50 oral rat	1746 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral, 14 day(s))
LD50 oral	1414 mg/kg bodyweight Animal: guinea pig, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1020 - 1961
LD50 dermal	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Guinea pig, Male / female, Experimental value, Dermal, 14 day(s))
Sodium laureth sulphate (68891-38-3)	
LD50 oral rat	4100 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral)
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
Ethane-1,2-diol (107-21-1)	
LD50 oral rat	7712 mg/kg bodyweight (according to BASF-internal standards, Rat, Male / female, Experimental value, Aqueous solution, Oral, 7 day(s))
LD50 dermal	> 3500 mg/kg bodyweight (Mouse, Male / female, Experimental value, Dermal)



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<b>Ethane-1,2-diol (107-21-1)</b>	
LC50 Inhalation - Rat	> 2.5 mg/l (6 h, Rat, Male / female, Experimental value, Inhalation (aerosol))
<b>1-dodecanol (112-53-8)</b>	
LD50 oral	8000 mg/kg bodyweight (24 h, Rabbit, Male / female, Experimental value, Oral)
LD50 dermal rabbit	8000 – 12000 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal)
LC50 Inhalation - Rat	> 71 mg/l (1 h, Rat, Male / female, Experimental value of similar product, Inhalation (mist), 14 day(s))
<b>1-tetradecanol (112-72-1)</b>	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral)
LD50 dermal rabbit	8000 mg/kg bodyweight (24 h, Rabbit, Male / female, Experimental value, Dermal)
LC50 Inhalation - Rat	> 1.5 mg/l air (1 h, Rat, Male / female, Experimental value, Inhalation (vapours))
Skin corrosion/irritation	: Causes skin irritation. pH: 6 – 8
<b>2-butoxyethanol (111-76-2)</b>	
pH	No data available in the literature
<b>Sodium laureth sulphate (68891-38-3)</b>	
pH	No data available in the literature
<b>Ethane-1,2-diol (107-21-1)</b>	
pH	No data available in the literature
<b>1-tetradecanol (112-72-1)</b>	
pH	5.5 (1.3E-3 g/l, 23 °C)
Serious eye damage/irritation	: Causes serious eye irritation. pH: 6 – 8
<b>2-butoxyethanol (111-76-2)</b>	
pH	No data available in the literature
<b>Sodium laureth sulphate (68891-38-3)</b>	
pH	No data available in the literature
<b>Ethane-1,2-diol (107-21-1)</b>	
pH	No data available in the literature
<b>1-tetradecanol (112-72-1)</b>	
pH	5.5 (1.3E-3 g/l, 23 °C)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: May cause damage to organs (kidneys) through prolonged or repeated exposure (if swallowed).
<b>2-butoxyethanol (111-76-2)</b>	
NOAEL (dermal, rat/rabbit, 90 days)	> 150 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study), Remarks on results: other:

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Sodium laureth sulphate (68891-38-3)	
LOAEL (oral, rat, 90 days)	25 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Remarks on results: other:
NOAEL (oral, rat, 90 days)	> 225 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Remarks on results: other:
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Ethane-1,2-diol (107-21-1)	
STOT-repeated exposure	May cause damage to organs (kidneys) through prolonged or repeated exposure (if swallowed).

Aspiration hazard : Not classified

Hi-Foam FP	
Viscosity, kinematic	10 mm <sup>2</sup> /s
2-butoxyethanol (111-76-2)	
Viscosity, kinematic	3.642 mm <sup>2</sup> /s (20 °C, Not relevant)
Sodium laureth sulphate (68891-38-3)	
Viscosity, kinematic	Not applicable (solid)
Ethane-1,2-diol (107-21-1)	
Viscosity, kinematic	18.86 mm <sup>2</sup> /s (20 °C)
1-dodecanol (112-53-8)	
Viscosity, kinematic	11 mm <sup>2</sup> /s (40 °C, ASTM D445: Capillary viscometer, Test data)
1-tetradecanol (112-72-1)	
Viscosity, kinematic	2.845 mm <sup>2</sup> /s (100 °C, ASTM D445: Capillary viscometer)

### 11.2. Information on other hazards

No additional information available

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - water : Harmful to aquatic life with long lasting effects.  
Hazardous to the aquatic environment, short-term (acute) : Not classified  
Hazardous to the aquatic environment, long-term (chronic) : Harmful to aquatic life with long lasting effects.

Hi-Foam FP	
LC50 - Fish [1]	1000 mg/l (48h; Carassius auratus)
LC50 - Other aquatic organisms [1]	50 mg/l (Daphnia magna)
2-butoxyethanol (111-76-2)	
LC50 - Fish [1]	1474 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri)
EC50 - Crustacea [1]	≈ 1800 mg/l Test organisms (species): Daphnia magna
ErC50 algae	1840 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)

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2-butoxyethanol (111-76-2)	
NOEC (chronic)	100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	≥ 100 mg/l Test organisms (species): Oryzias latipes Duration: '14 d'
Sodium laureth sulphate (68891-38-3)	
LC50 - Fish [1]	7.1 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Brachydanio rerio, Flow-through system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	7.4 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	27.7 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	27.7 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP)
NOEC (chronic)	0.27 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC chronic fish	0.14 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '28 d'
Ethane-1,2-diol (107-21-1)	
LC50 - Fish [1]	> 72860 mg/l (EPA 600/4-90/027, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	> 100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, Daphnia magna, Static system, Fresh water, Experimental value)
1-dodecanol (112-53-8)	
LC50 - Fish [1]	1.01 mg/l (US EPA, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	0.765 mg/l (DIN 38412: German standard methods for the examination of water, waste water and sludge, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
ErC50 algae	0.66 mg/l (Equivalent or similar to OECD 201, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)
1-tetradecanol (112-72-1)	
LC50 - Fish [1]	> 1 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value)
EC50 - Crustacea [1]	3.2 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value)

### 12.2. Persistence and degradability

Hi-Foam FP	
Persistence and degradability	May cause long-term adverse effects in the environment.
2-butoxyethanol (111-76-2)	
Persistence and degradability	Readily biodegradable in water.
Sodium laureth sulphate (68891-38-3)	
Persistence and degradability	Readily biodegradable in water.
Butanedioic acid, 2(or 3)-sulfo-, 4-[2-[(1-oxododecyl)amino]ethyl] ester, sodium salt (75081-73-1)	
Persistence and degradability	Rapidly degradable

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Ethane-1,2-diol (107-21-1)	
Persistence and degradability	Biodegradable in the soil, Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.47 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.24 g O <sub>2</sub> /g substance
ThOD	1.29 g O <sub>2</sub> /g substance
1-dodecanol (112-53-8)	
Persistence and degradability	Biodegradable in the soil, Readily biodegradable in water.
ThOD	3.09 g O <sub>2</sub> /g substance
1-tetradecanol (112-72-1)	
Persistence and degradability	Readily biodegradable in water.
ThOD	3.13 g O <sub>2</sub> /g substance

### 12.3. Bioaccumulative potential

Hi-Foam FP	
Bioaccumulative potential	The product is not expected to bioaccumulate.
2-butoxyethanol (111-76-2)	
Partition coefficient n-octanol/water (Log Pow)	0.81 (Experimental value, BASF test, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Sodium laureth sulphate (68891-38-3)	
Partition coefficient n-octanol/water (Log Pow)	0.3 (Experimental value, OECD 123: Partition Coefficient (1-Octanol/Water): Slow-Stirring Method, 23 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
Ethane-1,2-diol (107-21-1)	
Partition coefficient n-octanol/water (Log Pow)	-1.36 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.
1-dodecanol (112-53-8)	
Partition coefficient n-octanol/water (Log Pow)	5.4 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 23 °C)
Bioaccumulative potential	High potential for bioaccumulation (Log Kow > 5).
1-tetradecanol (112-72-1)	
BCF - Fish [1]	26 (BCFBAF v3.01, Pisces, QSAR)
Partition coefficient n-octanol/water (Log Pow)	5.5 (Experimental value, ASTM E1147, 25 °C)
Bioaccumulative potential	High potential for bioaccumulation (Log Kow > 5).

### 12.4. Mobility in soil

2-butoxyethanol (111-76-2)	
Surface tension	65.03 mN/m (20 °C, 2 g/l)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.45 – 0.88 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

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Sodium laureth sulphate (68891-38-3)	
Surface tension	33 mN/m (25 °C, 0.07 %, BS EN 14370:2004: Surface tension)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.34 (log Koc, QSAR)
Ecology - soil	Highly mobile in soil.
Ethane-1,2-diol (107-21-1)	
Surface tension	48.4 mN/m (20 °C)
Ecology - soil	Highly mobile in soil.
1-dodecanol (112-53-8)	
Surface tension	31.8 mN/m (23 °C, 6.4 mg/l)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	3.71 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value)
Ecology - soil	Low potential for mobility in soil.
1-tetradecanol (112-72-1)	
Surface tension	24 mN/m
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	4.53 (log Koc, OECD 121: Estimation of the Adsorption Coefficient (Koc) on Soil and on Sewage Sludge using High Performance Liquid Chromatography (HPLC), Experimental value)
Ecology - soil	Low potential for mobility in soil.

### 12.5. Results of PBT and vPvB assessment

Hi-Foam FP	
PBT: not relevant – no registration required	
vPvB: not relevant – no registration required	
Component	
Substance(s) not meeting the PBT criteria of REACH regulation, in accordance with Annex XIII	2-butoxyethanol (111-76-2), Sodium laureth sulphate (68891-38-3), Ethane-1,2-diol (107-21-1), 1-dodecanol (112-53-8), 1-tetradecanol (112-72-1)
Substance(s) not meeting the vPvB criteria of REACH regulation, in accordance with Annex XIII	2-butoxyethanol (111-76-2), Sodium laureth sulphate (68891-38-3), Ethane-1,2-diol (107-21-1), 1-dodecanol (112-53-8), 1-tetradecanol (112-72-1)

### 12.6. Endocrine disrupting properties

No additional information available

### 12.7. Other adverse effects

Other adverse effects : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

##### Concentrate

Prevent foam concentrate from entering ground water, surface water or storm drains. Small quantities of foam concentrate may be collected on absorbents which can then be disposed of. Disposal should be made in accordance with local, state and federal regulations.

##### Foam/Foam Solution

Prevent foam/foam solution from entering ground water, surface water or storm drains. Small quantities of foam solution may be collected on absorbents which can then be disposed of. Disposal should be made in accordance with local, state and federal regulations.

**NOTE:** Please consult Kerr Fire for additional information regarding the disposal of foam concentrates and foam solutions or visit <https://kerrfire.co.uk/use-discharge-and-disposal-of-firefighting-foam-products/>.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
Ecological information : Avoid release to the environment.  
European List of Waste (LoW, EC 2000/532) : 16 03 05\* - organic wastes containing dangerous substances

### SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
<b>14.1. UN number or ID number</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.2. UN proper shipping name</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
No supplementary information available				

#### 14.6. Special precautions for user

##### Overland transport

Not applicable

##### Transport by sea

Not applicable

##### Air transport

Not applicable

##### Inland waterway transport

Not applicable

##### Rail transport

Not applicable

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### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

##### REACH Annex XVII (Restriction List)

EU restriction list (REACH Annex XVII)		
Reference code	Applicable on	Entry title or description
3(b)	Hi-Foam FP ; 2-butoxyethanol ; Ethane-1,2-diol	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard classes 3.1 to 3.6, 3.7 adverse effects on sexual function and fertility or on development, 3.8 effects other than narcotic effects, 3.9 and 3.10
3(c)	Hi-Foam FP	Substances or mixtures fulfilling the criteria for any of the following hazard classes or categories set out in Annex I to Regulation (EC) No 1272/2008: Hazard class 4.1

##### REACH Annex XIV (Authorisation List)

Contains no substance(s) listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

##### PIC Regulation (Prior Informed Consent)

Contains no substance(s) listed on the PIC list (Regulation EU 649/2012 concerning the export and import of hazardous chemicals)

##### POP Regulation (Persistent Organic Pollutants)

Contains no substance(s) listed on the POP list (Regulation EU 2019/1021 on persistent organic pollutants)

##### Ozone Regulation (1005/2009)

Contains no substance(s) listed on the Ozone Depletion list (Regulation EU 1005/2009 on substances that deplete the ozone layer)

##### Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

##### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

##### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

#### 15.1.2. National regulations

##### France

Occupational diseases	
Code	Description
RG 84	Conditions caused by liquid organic solvents for professional use: saturated or unsaturated aliphatic or cyclic liquid hydrocarbons and mixtures thereof; liquid halogenated hydrocarbons; nitrated derivatives of aliphatic hydrocarbons; alcohols; glycols, glycol ethers; ketones; aldehydes; aliphatic and cyclic ethers, including tetrahydrofuran; esters; dimethylformamide and dimethylacetamine; acetonitrile and propionitrile; pyridine; dimethylsulfone and dimethylsulfoxide

##### Germany

Water hazard class (WGK) : WGK 3, Highly hazardous to water (Classification according to AwSV, Annex 1).

Hazardous Incident Ordinance (12. BImSchV) : Is not subject to the Hazardous Incident Ordinance (12. BImSchV)

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### Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed  
SZW-lijst van mutagene stoffen : None of the components are listed  
SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed  
SZW-lijst van reprotoxische stoffen –  
Vruchtbaarheid : None of the components are listed  
SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

### Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product  
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

## 15.2. Chemical safety assessment

No additional information available

## SECTION 16: Other information

Data sources : 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, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Full text of H- and EUH-statements:	
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment – Chronic Hazard, Category 3
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2

SDS EU (REACH Annex II) - Kerr Fire

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.