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

1.1. Product identifier

Product form : Mixture

Product name : Filmfoam^{C6} 913

Type of product : Firefighting foam concentrate (AFFF)

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

1.2.1. Relevant identified uses

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
Station Road
Bentham LA2 7NA - United Kingdom
T +44 (0) 1524 264 037
ian.huntley1@kerr-firefighting.com - www.kerrfire.co.uk

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Eye Irrit. 2 H319

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xi; R36

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS07

Signal word (CLP) : Warning

Hazard statements (CLP) : H319 - Causes serious eye irritation

Precautionary statements (CLP) : P264 - Wash hands thoroughly after handling
P280 - Wear eye protection, protective gloves
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337+P313 - If eye irritation persists: Get medical advice/attention

2.3. Other hazards

PBT: not relevant – no registration required

vPvB: not relevant – no registration required

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Directive 67/548/EEC
2-(2-Butoxyethoxy)ethanol	(CAS No) 112-34-5 (EC no) 203-961-6 (EC index no) 603-096-00-8	4 - 10	Xi; R36
2-methyl-2,4-pentanediol	(CAS No) 107-41-5 (EC no) 203-489-0 (EC index no) 603-053-00-3	4 - 10	Xi; R36/38
Ethane-1,2-diol substance with a Community workplace exposure limit	(CAS No) 107-21-1 (EC no) 203-473-3 (EC index no) 603-027-00-1	< 1	Xn; R22

Name	Product identifier	Specific concentration limits
2-methyl-2,4-pentanediol	(CAS No) 107-41-5 (EC no) 203-489-0 (EC index no) 603-053-00-3	(C >= 10) Xi;R36/38

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-(2-Butoxyethoxy)ethanol	(CAS No) 112-34-5 (EC no) 203-961-6 (EC index no) 603-096-00-8	4 - 10	Eye Irrit. 2, H319
2-methyl-2,4-pentanediol	(CAS No) 107-41-5 (EC no) 203-489-0 (EC index no) 603-053-00-3	4 - 10	Skin Irrit. 2, H315 Eye Irrit. 2, H319
Ethane-1,2-diol substance with a Community workplace exposure limit	(CAS No) 107-21-1 (EC no) 203-473-3 (EC index no) 603-027-00-1	< 1	Acute Tox. 4 (Oral), H302

Full text of R- and H-phrases: 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 victim to breathe fresh air. Allow the victim to rest.

First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

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. Do NOT induce vomiting. Obtain emergency medical attention.

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

Symptoms/injuries after eye contact : Causes serious eye irritation.

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

Treat symptomatically.

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 liquid enters sewers or public waters.

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.

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). Protect from freezing. Keep/Store away from incompatible materials.

7.3. Specific end use(s)

Firefighting foam concentrate.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-(2-Butoxyethoxy)ethanol (112-34-5)		
EU	IOELV TWA (mg/m³)	67.5 mg/m³
EU	IOELV TWA (ppm)	10 ppm
EU	IOELV STEL (mg/m³)	101.2 mg/m³
EU	IOELV STEL (ppm)	15 ppm

2-methyl-2,4-pentanediol (107-41-5)		
EU	IOELV TWA (mg/m³)	123 mg/m³
EU	IOELV TWA (ppm)	25 ppm
EU	IOELV STEL (mg/m³)	123 mg/m³
EU	IOELV STEL (ppm)	25 ppm

Ethane-1,2-diol (107-21-1)		
EU	IOELV TWA (mg/m³)	52 mg/m³
EU	IOELV TWA (ppm)	20 ppm
EU	IOELV STEL (mg/m³)	104 mg/m³
EU	IOELV STEL (ppm)	40 ppm

8.2. Exposure controls

Appropriate engineering controls : Ensure adequate ventilation. Follow the exposure limits given on this material safety data sheet.

Personal protective equipment : Wear recommended personal protective equipment.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazard protection : Wear thermal protective clothing, when necessary.

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 : Amber.

Odour : Characteristic.

Odour threshold	:	No data available
pH	:	6.6 - 7.6
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	No data available
Freezing point	:	≤ 0 °C
Boiling point	:	No data available
Flash point	:	> 65 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Non flammable
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	No data available
Density	:	1.01 - 1.03 kg/l
Solubility	:	No data available
Log Pow	:	No data available
Viscosity, kinematic	:	≈ 2 mm²/s (20°C)
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

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. Hydrogen fluoride. Nitrogen oxides (NOx). Sodium oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

2-(2-Butoxyethoxy)ethanol (112-34-5)	
LD50 oral rat	5660 mg/kg (Rat)
LD50 dermal rabbit	2764 mg/kg (Rabbit; Experimental value; OECD 402 : acute dermal toxicity)

2-methyl-2,4-pentanediol (107-41-5)	
LD50 oral rat	3700 mg/kg (Rat; OECD 420; Experimental value; > 2000 mg/kg bodyweight; Rat)
LD50 dermal rat	> 2000 mg/kg bodyweight (Rat; Experimental value; OECD 402: acute dermal toxicity)
LD50 dermal rabbit	> 8000 mg/kg (Rabbit)

Ethane-1,2-diol (107-21-1)	
LD50 oral rat	> 5000 mg/kg (Rat; Study on Literature)

Skin corrosion/irritation : Not classified
Based on available data, the classification criteria are not met
pH: 6.6 - 7.6

Serious eye damage/irritation : Causes serious eye irritation.
pH: 6.6 - 7.6

Respiratory or skin sensitisation	:	Not classified Based on available data, the classification criteria are not met
Germ cell mutagenicity	:	Not classified Based on available data, the classification criteria are not met
Carcinogenicity	:	Not classified Based on available data, the classification criteria are not met
Reproductive toxicity	:	Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	:	Not classified Based on available data, the classification criteria are not met
Specific target organ toxicity (repeated exposure)	:	Not classified Based on available data, the classification criteria are not met
Aspiration hazard	:	Not classified Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	:	Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

2-(2-Butoxyethoxy)ethanol (112-34-5)	
LC50 fishes 1	1300 mg/l (96 h; Lepomis macrochirus)
LC50 other aquatic organisms 1	10 - 100 mg/l (96 h)
EC50 Daphnia 1	2850 mg/l (24 h; Daphnia magna; GLP)
LC50 fish 2	1805 mg/l (48 h; Leuciscus idus)
EC50 Daphnia 2	> 100 mg/l (48 h; Daphnia magna)
TLM fish 1	10 - 100,96 h; Pisces
TLM other aquatic organisms 1	10 - 100,96 h
Threshold limit other aquatic organisms 1	10 - 100,96 h
Threshold limit algae 1	53 mg/l (192 h; Microcystis aeruginosa)
Threshold limit algae 2	>= 100 mg/l (96 h; Scenedesmus subspicatus)

2-methyl-2,4-pentanediol (107-41-5)	
LC50 fishes 1	12800 mg/l (96 h; Lepomis macrochirus)
LC50 other aquatic organisms 1	10 - 100 mg/l (96 h)
EC50 Daphnia 1	5410 mg/l (48 h; Daphnia magna)
LC50 fish 2	9450 mg/l (96 h; Oncorhynchus mykiss)
EC50 Daphnia 2	3300 mg/l (48 h; Daphnia pulex)
Threshold limit other aquatic organisms 1	10 - 100,96 h
Threshold limit algae 1	> 429 mg/l (72 h; Pseudokirchneriella subcapitata)

Ethane-1,2-diol (107-21-1)	
LC50 fishes 1	53000 mg/l (96 h; Pimephales promelas; Static system)
EC50 Daphnia 1	> 10000 mg/l (24 h; Daphnia magna)
LC50 fish 2	40761 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Static stystem)
Threshold limit algae 1	> 10000 mg/l (168 h; Scenedesmus quadricauda)
Threshold limit algae 2	2000 mg/l (192 h; Microcystis aeruginosa)

12.2. Persistence and degradability

Filmfoam^{C6} 913	
Persistence and degradability	The product is readily biodegradable.
Biochemical oxygen demand (BOD)	0.235 g O_2/g substance (28 days - CHEM009)
Chemical oxygen demand (COD)	0.353 g O_2/g substance (28 days - CHEM009)
Biodegradation	66 % (28 days - CHEM009)

2-(2-Butoxyethoxy)ethanol (112-34-5)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.25 g O_2/g substance
Chemical oxygen demand (COD)	2.08 g O_2/g substance
ThOD	2.173 g O_2/g substance

2-(2-Butoxyethoxy)ethanol (112-34-5)	
BOD (% of ThOD)	0.11 % ThOD

2-methyl-2,4-pentanediol (107-41-5)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.02 g O_2/g substance
Chemical oxygen demand (COD)	2.20 g O_2/g substance
ThOD	2.3 g O_2/g substance
BOD (% of ThOD)	0.01 % ThOD

Ethane-1,2-diol (107-21-1)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.47 g O_2/g substance
Chemical oxygen demand (COD)	1.24 g O_2/g substance
ThOD	1.29 g O_2/g substance
BOD (% of ThOD)	0.36 % ThOD

12.3. Bioaccumulative potential

Filmfoam^{C6} 913	
Bioaccumulative potential	The product is not expected to bioaccumulate.

2-(2-Butoxyethoxy)ethanol (112-34-5)	
BCF fish 1	0.46 (QSAR)
Log Pow	0.56 (Experimental value)
Bioaccumulative potential	Low bioaccumulation potential.

2-methyl-2,4-pentanediol (107-41-5)	
Log Pow	0.58 (QSAR)
Bioaccumulative potential	Low bioaccumulation potential.

Ethane-1,2-diol (107-21-1)	
BCF fish 1	10 (72 h; Leuciscus idus)
BCF other aquatic organisms 1	0.21 - 0.6 (Procambarus sp.; Chronic)
BCF other aquatic organisms 2	190 (24 h; Algae)
Log Pow	-1.34 (Experimental value)
Bioaccumulative potential	Low bioaccumulation potential.

12.4. Mobility in soil

2-(2-Butoxyethoxy)ethanol (112-34-5)	
Surface tension	0.034 N/m (25 °C)

2-methyl-2,4-pentanediol (107-41-5)	
Surface tension	0.033 N/m

Ethane-1,2-diol (107-21-1)	
Surface tension	0.048 N/m (20 °C)

12.5. Results of PBT and vPvB assessment

Filmfoam^{C6} 913
PBT: not relevant – no registration required
vPvB: not relevant – no registration required

12.6. Other adverse effects

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

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

European List of Waste (LoW) code : 16 03 05* - organic wastes containing dangerous substances

SECTION 14: Transport information

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

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable
Proper Shipping Name (IMDG) : Not applicable
Proper Shipping Name (IATA) : Not applicable
Proper Shipping Name (ADN) : Not applicable
Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable
Packing group (IMDG) : Not applicable
Packing group (IATA) : Not applicable
Packing group (ADN) : Not applicable
Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

14.6.1. Overland transport

14.6.2. Transport by sea

14.6.3. Air transport

14.6.4. Inland waterway transport

Carriage prohibited (ADN) : No
Not subject to ADN : No

14.6.5. Rail transport

Carriage prohibited (RID) : No

14.7. 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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Contains no substance on the REACH candidate list

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

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.

Other information : None.

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
R22	Harmful if swallowed
R36	Irritating to eyes
R36/38	Irritating to eyes and skin
Xi	Irritant
Xn	Harmful

SDS EU (REACH Annex II)

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