Tridol^{C6} S1 Zero

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Issue date: 05/11/2014 Revision date: 17/03/2023 Supersedes version of: 16/04/2021

Version: 3.0

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

1.1. Product identifier

Product form : Mixture

Product name : Tridol^{C6} S1 Zero

UFI : KHU0-80WU-200Q-TDKP

Product code : FNC 03 09

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

ANGUS FIRE Ltd
Station Road
LA2 7NA Bentham - United Kingdom
T +44(0) 1524 264000 - F +44(0)1524 264180
general.enquiries@angus.co.uk - www.angusfire.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	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH Birmingham	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]

Serious eye damage/eye irritation, Category 2 H319

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

Adverse physicochemical, human health and environmental effects

No additional information available

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 clothing, 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

Other hazards which do not result in classification : This product contains fluoroalkyl surfactants (which are and include per- or poly- fluoroalkyl substances, "PFAS") and is required to be disposed of by high temperature incineration. See Section 13 for additional information.

PBT: not relevant – no registration required

vPvB: not relevant – no registration required

Contains no PBT/vPvB substances ≥ 0.1% assessed in accordance with REACH Annex XIII

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-(2-butoxyethoxy)ethanol substance with national workplace exposure limit(s) (BE, FR, GB, NL); substance with a Community workplace exposure limit	(CAS-No.) 112-34-5 (EC-No.) 203-961-6 (EC Index-No.) 603-096-00-8 (REACH-no) 01-2119475104-44	25 – 50	Eye Irrit. 2, H319
Ethanol substance with national workplace exposure limit(s) (BE, FR, GB, NL)	(CAS-No.) 64-17-5 (EC-No.) 200-578-6 (EC Index-No.) 603-002-00-5	1 – 4	Flam. Liq. 2, H225 Eye Irrit. 2, H319
Fluorosurfactant blend	(CAS-No.) Proprietary	1 – 4	Aquatic Chronic 2, H411
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	1 – 4	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Sodium octyl sulphate	(CAS-No.) 142-31-4 (EC-No.) 205-535-5 (REACH-no) 01-2119966154-35	1 – 4	Skin Irrit. 2, H315 Eye Dam. 1, H318
2-methyl-2,4-pentanediol substance with national workplace exposure limit(s) (BE, FR, GB)	(CAS-No.) 107-41-5 (EC-No.) 203-489-0 (EC Index-No.) 603-053-00-3 (REACH-no) 01-2119539582-35	0.1 – 1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361d
2-methyl-2-propanol substance with national workplace exposure limit(s) (BE, FR, GB)	(CAS-No.) 75-65-0 (EC-No.) 200-889-7 (EC Index-No.) 603-005-00-1 (REACH-no) 01-2119444321-51	0.1 – 1	Flam. Liq. 2, H225 Acute Tox. 4 (Inhalation:dust,mist), H332 Eye Irrit. 2, H319 STOT SE 3, H335

Specific concentration limits:

Name	Product identifier	Specific concentration limits
Sodium octyl sulphate	(CAS-No.) 142-31-4 (EC-No.) 205-535-5 (REACH-no) 01-2119966154-35	(10 ≤C < 20) Eye Irrit. 2, H319 (20 ≤C < 100) Eye Dam. 1, H318

Comments : This product contains fluoroalkyl surfactants which are and include PFAS (per- or poly-fluoroalkyl substances), see Sections 13 & 15 for additional information.

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 : 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/effects 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 product 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. Read and follow the Safety Data Sheet (SDS) before use.

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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

2-(2-butoxyethoxy)ethanol (112-34-5)		
EU	IOEL TWA	67.5 mg/m³
EU	IOEL TWA [ppm]	10 ppm
EU	IOEL STEL	101.2 mg/m³
EU	IOEL STEL [ppm]	15 ppm
Belgium	OEL TWA	67.5 mg/m³
Belgium	OEL TWA [ppm]	10 ppm
Belgium	OEL STEL	101.2 mg/m³
Belgium	OEL STEL [ppm]	15 ppm
France	VME (OEL TWA)	67.5 mg/m³
France	VME (OEL TWA) [ppm]	10 ppm
France	VLE (OEL C/STEL)	101.2 mg/m³
France	VLE (OEL C/STEL) [ppm]	15 ppm
Netherlands	TGG-8u (OEL TWA)	50 mg/m³
Netherlands	TGG-8u (OEL TWA) [ppm]	7.4 ppm
Netherlands	TGG-15min (OEL STEL)	100 mg/m³

2-(2-butoxyethoxy)ethanol (112-34-5)		
Netherlands	TGG-15min (OEL STEL) [ppm]	15 ppm
United Kingdom	WEL TWA (OEL TWA) [1]	67.5 mg/m³
United Kingdom	WEL TWA (OEL TWA) [2]	10 ppm
United Kingdom	WEL STEL (OEL STEL)	101.2 mg/m³
United Kingdom	WEL STEL (OEL STEL) [ppm]	15 ppm
USA - ACGIH	ACGIH OEL TWA [ppm]	10 ppm (Inhalable fraction and vapor)
2-methyl-2,4-pentanediol (107-41-5)		
Belgium	OEL TWA	123 mg/m³
Belgium	OEL TWA [ppm]	25 ppm
France	VLE (OEL C/STEL)	125 mg/m³
France	VLE (OEL C/STEL) [ppm]	25 ppm
United Kingdom	WEL TWA (OEL TWA) [1]	123 mg/m³
United Kingdom	WEL TWA (OEL TWA) [2]	25 ppm
United Kingdom	WEL STEL (OEL STEL)	123 mg/m³
United Kingdom	WEL STEL (OEL STEL) [ppm]	25 ppm
USA - ACGIH	ACGIH OEL TWA [ppm]	25 ppm (Vapor fraction)
USA - ACGIH	ACGIH OEL STEL	10 mg/m³ (Inhalable fraction, Aerosol only)
USA - ACGIH	ACGIH OEL STEL [ppm]	50 ppm (Vapor fraction)
Ethanol (64-17-5)		
Belgium	OEL TWA	1907 mg/m³
Belgium	OEL TWA [ppm]	1000 ppm
France	VME (OEL TWA)	1900 mg/m³
France	VME (OEL TWA) [ppm]	1000 ppm
France	VLE (OEL C/STEL)	9500 mg/m³
France	VLE (OEL C/STEL) [ppm]	5000 ppm
Netherlands	TGG-8u (OEL TWA)	260 mg/m³
Netherlands	TGG-8u (OEL TWA) [ppm]	136 ppm
Netherlands	TGG-15min (OEL STEL)	1900 mg/m³
Netherlands	TGG-15min (OEL STEL) [ppm]	992 ppm
United Kingdom	WEL TWA (OEL TWA) [1]	1920 mg/m³
United Kingdom	WEL TWA (OEL TWA) [2]	1000 ppm
USA - ACGIH	ACGIH OEL STEL [ppm]	1000 ppm
Ethane-1,2-diol (107-21-1)		
EU	IOEL TWA	52 mg/m³
EU	IOEL TWA [ppm]	20 ppm
EU	IOEL STEL	104 mg/m³
EU	IOEL STEL [ppm]	40 ppm
Belgium	OEL TWA	52 mg/m³
Belgium	OEL TWA [ppm]	20 ppm
Belgium	OEL STEL	104 mg/m³
Belgium	OEL STEL [ppm]	40 ppm
France	VME (OEL TWA)	52 mg/m³
France	VME (OEL TWA) [ppm]	20 ppm
France	VLE (OEL C/STEL)	104 mg/m³
France	VLE (OEL C/STEL) [ppm]	40 ppm
Netherlands	TGG-8u (OEL TWA)	52 mg/m³ (damp) 10 mg/m³ (druppels)
Netherlands	TGG-8u (OEL TWA) [ppm]	20 ppm (damp) 3.9 ppm (druppels)
Netherlands	TGG-15min (OEL STEL)	104 mg/m³ (damp)
Netherlands	TGG-15min (OEL STEL) [ppm]	40 ppm (damp)
United Kingdom	WEL TWA (OEL TWA) [1]	10 mg/m³ 52 mg/m³
United Kingdom	WEL TWA (OEL TWA) [2]	20 ppm
United Kingdom	WEL STEL (OEL STEL)	104 mg/m³
United Kingdom	WEL STEL (OEL STEL) [ppm]	40 ppm
USA - ACGIH	ACGIH OEL TWA [ppm]	25 ppm (Vapor fraction)
USA - ACGIH	ACGIH OEL STEL	10 mg/m³ (Inhalable fraction, Aerosol only)
USA - ACGIH	ACGIH OEL STEL [ppm]	50 ppm (Vapor fraction)

2-methyl-2-propanol (75-65-0)		
Belgium	OEL TWA	307 mg/m³
Belgium	OEL TWA [ppm]	100 ppm
France	VME (OEL TWA)	300 mg/m³
France	VME (OEL TWA) [ppm]	100 ppm
United Kingdom	WEL TWA (OEL TWA) [1]	308 mg/m³
United Kingdom	WEL TWA (OEL TWA) [2]	100 ppm
United Kingdom	WEL STEL (OEL STEL)	462 mg/m³
United Kingdom	WEL STEL (OEL STEL) [ppm]	150 ppm
USA - ACGIH	ACGIH OEL TWA [ppm]	100 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 (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): nitrile rubber (NBR) - 0.2 mm coating thickness

Eye protection:

Sealed safety goggles

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

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

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	:	Yellow.
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	:	-9 °C
Boiling point	:	No data available
Flash point	:	> 100 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability	:	No data available
Vapour pressure	:	No data available

Relative vapour density at 20°C	:	No data available
Relative density	:	No data available
Density	:	1 – 1.04
Solubility	:	No data available
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Viscosity, kinematic	:	5 mm²/s
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

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	2410 – 5530 mg/kg bodyweight (Equivalent or similar to OECD 401, Mouse, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	2764 mg/kg bodyweight (Equivalent or similar to OECD 402, Rabbit, Male, Experimental value, Dermal, 14 day(s))

2-methyl-2,4-pentanediol (107-41-5)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 420: Acute Oral toxicity – Acute Toxic Class Method, Rat, Male / female, Experimental value, Oral, 15 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 15 day(s))
LC50 Inhalation - Rat	> 55 mg/l (Equivalent or similar to OECD 403, 8 h, Rat, Male, Experimental value, Inhalation (vapours), 14 day(s))

Ethanol (64-17-5)	
LD50 oral rat	10470 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 15800 mg/kg bodyweight (Rabbit, Experimental value, Dermal)
LC50 Inhalation - Rat	124.7 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours), 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)
LC50 Inhalation - Rat	> 2.5 mg/l (6 h, Rat, Male / female, Experimental value, Inhalation (aerosol))

2-methyl-2-propanol (75-65-0)	
LD50 oral rat	3046 mg/kg bodyweight (EPA OPPTS 870.1100: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))

2-methyl-2-propanol (75-65-0)	
LD50 dermal rabbit	> 2000 mg/kg bodyweight (EU Method B.3: Acute toxicity (dermal), 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 36 mg/l (EPA OPPTS 870.1300: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours), 14 day(s))

Sodium octyl sulphate (142-31-4)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))

Skin corrosion/irritation : Not classified
pH: 6.6 – 7.6

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

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 : Not classified

Aspiration hazard : Not classified

Tridol^{C6} S1 Zero	
Viscosity, kinematic	5 mm²/s

SECTION 12: Ecological information

12.1. Toxicity

2-(2-butoxyethoxy)ethanol (112-34-5)	
LC50 - Fish [1]	1300 mg/l (Equivalent or similar to OECD 203, 96 h, Lepomis macrochirus, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	> 100 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 96 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)

2-methyl-2,4-pentanediol (107-41-5)	
LC50 - Fish [1]	9450 mg/l (Equivalent or similar to OECD 203, 96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	5410 mg/l (Equivalent or similar to OECD 202, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 72h - Algae [1]	> 429 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)

Ethanol (64-17-5)	
LC50 - Fish [1]	15300 mg/l (US EPA, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, Lethal)
EC50 72h - Algae [1]	275 mg/l (Equivalent or similar to OECD 201, Chlorella vulgaris, Static system, Fresh water, Experimental value, Growth rate)

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)

2-methyl-2-propanol (75-65-0)	
LC50 - Fish [1]	> 961 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Pimephales promelas, Flow-through system, Fresh water, Experimental value, GLP)
EC50 - Crustacea [1]	933 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	> 976 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)

Sodium octyl sulphate (142-31-4)	
LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Danio rerio, Semi-static system, Fresh water, Experimental value, GLP)

Sodium octyl sulphate (142-31-4)	
EC50 - Crustacea [1]	> 100 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Semi-static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	> 511 mg/l (EU Method C.3, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Read-across, GLP)

12.2. Persistence and degradability

Tridol^{C6} S1 Zero	
Biochemical oxygen demand (BOD)	0.448 g O_2 /g substance (28 days)
Chemical oxygen demand (COD)	0.692 g O_2 /g substance
Biodegradation	65 % (28 days)

2-(2-butoxyethoxy)ethanol (112-34-5)	
Persistence and degradability	Readily biodegradable in water.

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)	2.2 g O_2 /g substance
ThOD	2.3 g O_2 /g substance

Ethanol (64-17-5)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.8 – 0.967 g O_2 /g substance
Chemical oxygen demand (COD)	1.7 g O_2 /g substance
ThOD	2.1 g O_2 /g substance
BOD (% of ThOD)	0.43

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_2 /g substance
Chemical oxygen demand (COD)	1.24 g O_2 /g substance
ThOD	1.29 g O_2 /g substance

2-methyl-2-propanol (75-65-0)	
Persistence and degradability	Not readily biodegradable in water.
Biochemical oxygen demand (BOD)	0 g O_2 /g substance
Chemical oxygen demand (COD)	2.18 g O_2 /g substance
ThOD	2.59 g O_2 /g substance

Sodium octyl sulphate (142-31-4)	
Persistence and degradability	Readily biodegradable in water.

12.3. Bioaccumulative potential

Tridol^{C6} S1 Zero	
Bioaccumulative potential	The product is not expected to bioaccumulate.

2-(2-butoxyethoxy)ethanol (112-34-5)	
Partition coefficient n-octanol/water (Log Pow)	1 (Experimental value, OECD 117: Partition Coefficient (n-octanol/water), HPLC method, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

2-methyl-2,4-pentanediol (107-41-5)	
Partition coefficient n-octanol/water (Log Pow)	0.58 (QSAR, KOWWIN)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Ethanol (64-17-5)	
BCF - Fish [1]	1 (Other, 72 h, Cyprinus carpio, Static system, Fresh water, Read-across)
Partition coefficient n-octanol/water (Log Pow)	-0.31 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

Ethane-1,2-diol (107-21-1)	
Partition coefficient n-octanol/water (Log Pow)	-1.36 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.

2-methyl-2-propanol (75-65-0)	
Partition coefficient n-octanol/water (Log Pow)	0.317 (Practical experience/observation, OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method, 22.5 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

Sodium octyl sulphate (142-31-4)	
BCF - Fish [1]	3.162 l/kg (BCFBAF v3.01, Estimated value, Fresh weight)
Partition coefficient n-octanol/water (Log Pow)	< -2.31 (Calculated, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

2-(2-butoxyethoxy)ethanol (112-34-5)	
Surface tension	27 mN/m (25 °C, 0.00212 mol/g)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.642 – 1 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

2-methyl-2,4-pentanediol (107-41-5)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

Ethanol (64-17-5)	
Surface tension	22.31 mN/m (20 °C, 100 %)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.2 (log Koc, Experimental value)
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.

2-methyl-2-propanol (75-65-0)	
Surface tension	69.8 mN/m (21 °C, 1.09 g/l, OECD 115: Surface Tension of Aqueous Solutions)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	0.324 – 0.707 (log Koc, SRC PCKOCWIN v2.0, Calculated value)
Ecology - soil	Highly mobile in soil.

Sodium octyl sulphate (142-31-4)	
Surface tension	58.4 mN/m (21.5 °C, 1 g/l, EU Method A.5: Surface tension)
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	1.88 – 2 (log Koc, Equivalent or similar to OECD 121, Experimental value)
Ecology - soil	Highly mobile in soil.

12.5. Results of PBT and vPvB assessment

Tridol^{C6} S1 Zero
PBT: not relevant – no registration required
vPvB: not relevant – no registration required

Component	
2-(2-butoxyethoxy)ethanol (112-34-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Ethanol (64-17-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Ethane-1,2-diol (107-21-1)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
Sodium octyl sulphate (142-31-4)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
2-methyl-2,4-pentanediol (107-41-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
2-methyl-2-propanol (75-65-0)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

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

This product contains PFAS. Local requirements for waste disposal may be more restrictive or otherwise different from national regulations. Therefore, applicable local and state regulatory agencies should be contacted regarding disposal of waste foam concentrate or foam/foam solution.

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. High temperature incineration is required at a minimum of 1000°C with a minimum residence time of 2 seconds.

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. High temperature incineration is required at a minimum of 1000°C with a minimum residence time of 2 seconds.

NOTE: Please consult Angus Fire for additional information regarding the disposal of foam concentrates and foam solutions or visit https://angusfire.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.
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 / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
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

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

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Listed on REACH Annex XVII (Restriction Conditions). The following restrictions are applicable:	
3(a) 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 2.1 to 2.4, 2.6 and 2.7, 2.8 types A and B, 2.9, 2.10, 2.12, 2.13 categories 1 and 2, 2.14 categories 1 and 2, 2.15 types A to F	Ethanol ; 2-methyl-2-propanol
3(b) 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	Tridol^{C6} S1 Zero ; 2-(2-butoxyethoxy)ethanol ; 2-methyl-2,4-pentanediol ; Ethanol ; Ethane-1,2-diol ; 2-methyl-2-propanol

3(c) 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	Fluorosurfactant blend
40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.	Ethanol ; 2-methyl-2-propanol
55. 2-(2-butoxyethoxy)ethanol (DEGBE)	2-(2-butoxyethoxy)ethanol

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

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

15.1.2. National regulations

France

Occupational diseases : RG 84 - Affections engendrées par les solvants organiques liquides à usage professionnel

Germany

Regulatory reference : WGK 2, Significantly hazardous to water (Classification according to AwSV, Annex 1)

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

Netherlands

SZW-lijst van kankerverwekkende stoffen : Ethanol is listed

SZW-lijst van mutagene stoffen : None of the components are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : Ethanol is listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : Ethanol is listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : Ethanol is listed

Denmark

Recommendations Danish Regulation : 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. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment – Chronic Hazard, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Flam. Liq. 2	Flammable liquids, Category 2
H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H361d	Suspected of damaging the unborn child
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
Repr. 2	Reproductive toxicity, Category 2

Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

SDS EU (REACH Annex II) - Angus 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.