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

1.1 Product identifier

STHAMEX®-AFFF 1% F-15 #4141

UFI: RJFC-20YW-M00Y-25M9

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

Use of the substance/mixture
Fire-extinguishing foam

1.3 Details of the supplier of the safety data sheet

Manufacturer	Fabrik chemischer Präparate von Dr. R. Sthamer GmbH & Co. KG
Street	Liebigstraße 5
Postal code/City	D-22113 Hamburg
Country	Deutschland
Telephone	+49 (0)40/736168-0
Telefax	+49 (0)40/736168-60
E-mail (competent person)	labor@sthamer.com
Website	http://sthamer.com
Department responsible for information	Dr. Prall, +49 (0)40/736168-31
Emergency telephone number	+49 (0)40/736168-0

1.4 Emergency telephone number

GIZ-Nord Poisons Centre of the University of Göttingen
Telephone +49 (0)551/19240

SECTION 2: Hazards identification

The information in this section and in all following sections (unless otherwise stated) refer to the product in the delivery condition (concentrate). The ready-to-use solutions prepared according to the dilution recommendation are to be classified differently (see Section 16).

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]
Eye Irrit. 2 H319

2.2 Label elements

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

Signal word	**WARNING**	
Hazard statements	H319	Causes serious eye irritation.
Precautionary statements	P262	Do not get in eyes, on skin, or on clothing.
	P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/....
	P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
	P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Classification procedure Bridging principle "Substantially similar mixtures".

2.3 Other hazards

Endocrine disrupting properties

Preparation related information

There are no data available on the mixture itself.

Information on ingredients

1,2-ETHANDIOL:

This substance does not have endocrine disrupting properties with respect to humans.

2-(2-BUTOXYETHOXY)ETHANOL:

This substance does not have endocrine disrupting properties with respect to humans.

OCTYLSULFATE:

This substance does not have endocrine disrupting properties with respect to humans.

DECYLSULFATE:

This substance does not have endocrine disrupting properties with respect to humans.

ALKYLPOLYGLYCOSIDE:

This substance does not have endocrine disrupting properties with respect to humans.

FLUOROSURFACTANT:

This substance does not have endocrine disrupting properties with respect to humans.

Results of PBT and vPvB assessment

Preparation related information

There are no data available on the mixture itself.

Information on ingredients

1,2-ETHANDIOL:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

2-(2-BUTOXYETHOXY)ETHANOL:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

OCTYLSULFATE:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

DECYLSULFATE:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

ALKYLPOLYGLYCOSIDE:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

FLUOROSURFACTANT:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

The data refer to the product as delivered. The solutions for use produced according to dilution recommendations are to be classified differently.
Can harm the aquatic fauna when entering surface waters.
Can harm the bacteria population in waste water treatment plants when entering the sewerage system.
Breathing is not possible whilst submerged in the foam. Take care when spraying people!
The product contains fluorosurfactants that are not completely biodegradable.
Concentrated surfactant solutions always pose a danger to aquatic life because they greatly reduce the surface tension of water thus disrupting all life processes associated with it. In sewage treatment plants, for example, the necessary aeration of the sewage stages can be hindered by the strong foam formation.

SECTION 3: Composition / information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

1,2-ETHANDIOL
CAS No.: 107-21-1
EC No.: 203-473-3
REACH No.: 01-2119456816-28-XXXX

Concentration: 5 - 10%
Classification according to Regulation (EC) No 1272/2008 [CLP]: GHS07-GHS08; Acute Tox. 4-STOT RE 2; H302-H373.8

2-(2-BUTOXYETHOXY)ETHANOL
CAS No.: 112-34-5
EC No.: 203-961-6
REACH No.: 01-2119475104-44-XXXX
Concentration: 20 - 25%
Classification according to Regulation (EC) No 1272/2008 [CLP]: GHS07; Eye Irrit. 2; H319

OCTYLSULFATE
CAS No.: 142-31-4
EC No.: 205-535-5
REACH No.: 01-2119966154-35-XXXX
Concentration: 1 - 5%
Classification according to Regulation (EC) No 1272/2008 [CLP]: GHS05; Skin Irrit. 2-Eye Dam. 1; H315-H318

DECYLSULFATE
CAS No.: 142-87-0
EC No.: 205-568-5
REACH No.: 01-2119970328-30-XXXX
Concentration: 1 - 5%
Classification according to Regulation (EC) No 1272/2008 [CLP]: GHS05; Acute Tox. 4-Skin Irrit. 2-Eye Dam. 1; H302-H315-H318

ALKYLPOLYGLYCOSIDE
CAS No.: 68515-73-1
EC No.: 500-220-1
REACH No.: 01-2119488530-36-XXXX
Concentration: 10 - 15%
Classification according to Regulation (EC) No 1272/2008 [CLP]: GHS05; Eye Dam. 1; H318

FLUOROSURFACTANT
Concentration: 1 - 5%
The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

WATER
CAS No.: 7732-18-5
Concentration: 35 - 62%
The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

The product does not contain any relevant amounts of substances that are on the SVHC list.

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General information
Remove contaminated, saturated clothing immediately.
Wash thoroughly the body (shower or bath).
Observe risk of aspiration if vomiting occurs.
When in doubt or if symptoms are observed, get medical advice.

Following inhalation
Provide fresh air.
Consult a doctor immediately in the case of inhaling spray mist and show him packing or label.

In case of skin contact
Wash immediately with:: Water

After eye contact
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Following ingestion
Do NOT induce vomiting.
If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Dizziness
Nausea
Gastrointestinal complaints

4.3 Indication of any immediate medical attention and special treatment needed

If unconscious but breathing normally, place in recovery position and seek medical advice.
IF SWALLOWED: Immediately call a POISON CENTER/doctor/....

SECTION 5: Firefighting measures

5.1 Extinguishing media

The product itself does not burn.
Co-ordinate fire-fighting measures to the fire surroundings.

5.2 Special hazards arising from the substance or mixture

The product itself does not burn.

5.3 Advice for firefighters

Regardless of the admixture of a foam agent, extinguishing water can be heavily contaminated with hazardous substances due to the absorption of fire residues and should therefore, if possible, not enter the sewage system or bodies of water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation.

6.2 Environmental precautions

Cover drains.
Do not allow to enter into soil/subsoil.
Do not allow to enter into surface water or drains.

6.3 Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal.
Treat the recovered material as prescribed in the section on waste disposal.
Suitable material for taking up

- Sand
- Sawdust
- Chemical binding agents, containing acids

6.4 Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid
- Skin contact
- Eye contact

Wear personal protection equipment (refer to section 8).

Measures to prevent fire

The product is not
- oxidising
- Combustible
- Flammable
- Explosive
- Highly flammable

No special fire protection measures are necessary.

Environmental precautions

Shafts and sewers must be protected from entry of the product.

Advices on general occupational hygiene

When using do not eat, drink, smoke, sniff.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Do not store at temperatures above: +50°C

Requirements for storage rooms and vessels

Suitable container/equipment material
- Refined steel
- Polyethylene (PE)

Unsuitable container/equipment material
- Aluminium
- Light metal
- Copper
- Zinc
- Alloy, containing copper
- Alloy, contains light metal
- Iron.
- Steel

Hints on joint storage

Storage class
- 12: non-combustible liquids that cannot be assigned to any of the above storage classes

7.3 Specific end use(s)

Fire-extinguishing foams based on synthetic surfactants

Do not use for cleaning purposes.

Recommendation
Observe technical data sheet.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Substance name: 1,2-ETHANDIOL
CAS No.: 107-21-1
REACH No.: 01-2119456816-28-XXXX
United Kingdom
Long-term occupational exposure limit value: 20 ppm; Limit value type (country of origin): TWA (EN)
short-term occupational exposure limit value: 40 ppm; Limit value type (country of origin): STEL (EN)
European Union
Long-term occupational exposure limit value: 20 ppm; Limit value type (country of origin): TWA (EC)
short-term occupational exposure limit value: 40 ppm; Limit value type (country of origin): STEL (EC)
Germany
Long-term occupational exposure limit value: 10 ppm; Limit value type (country of origin): AGW (DE)
short-term occupational exposure limit value: 20 ppm; Limit value type (country of origin): Peak (DE)
Ireland
Long-term occupational exposure limit value: 20 ppm; Limit value type (country of origin): TWA (IE)
short-term occupational exposure limit value: 40 ppm; Limit value type (country of origin): STEL (IE)

Substance name: 2-(2-BUTOXYETHOXY)ETHANOL
CAS No.: 112-34-5
REACH No.: 01-2119475104-44-XXXX
United Kingdom
Long-term occupational exposure limit value: 10 ppm; Limit value type (country of origin): TWA (EN)
short-term occupational exposure limit value: 15 ppm; Limit value type (country of origin): STEL (EN)
European Union
Long-term occupational exposure limit value: 10 ppm; Limit value type (country of origin): TWA (EC)
short-term occupational exposure limit value: 15 ppm; Limit value type (country of origin): STEL (EC)
Germany
Long-term occupational exposure limit value: 10 ppm; Limit value type (country of origin): AGW (DE)
short-term occupational exposure limit value: 15 ppm; Limit value type (country of origin): Peak (DE)
Ireland
Long-term occupational exposure limit value: 10 ppm; Limit value type (country of origin): TWA (IE)
short-term occupational exposure limit value: 15 ppm; Limit value type (country of origin): STEL (IE)

8.2 Exposure controls

Advices on general occupational hygiene
Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.
Avoid contact with skin, eyes and clothes.
Remove contaminated, saturated clothing.
Wash contaminated clothing prior to re-use.
Wash hands before breaks and after work.
Apply skin care products after work.

Eye/face protection
Suitable eye protection
Eye glasses with side protection
goggles
Face protection shield

Recommended eye protection articles
DIN EN 166

Hand protection
Suitable gloves type
Gloves with long cuffs
Suitable material
NBR (Nitrile rubber)
Butyl caoutchouc (butyl rubber)
Breakthrough time
120 min.
Thickness of the glove material
> 0.6 mm
Recommended glove articles
EN ISO 374
Breakthrough times and swelling properties of the material must be taken into consideration.

Body protection
Body protection: not required.

Respiratory protection
Usually no personal respirative protection necessary.

Environmental exposure controls
Store concentrate according to national regulations.
Do not let the concentrate get into the environment.
If possible, hold back the application solution and dispose of after use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	**Physical state**			:	Liquid	
b)	**Colour**			:	colourless / yellow	
c)	**Odour**			:	Glycol, Ether, Surfactant	
d)	**Melting point/freezing point**			:	-15°C	EN 1568:2018
e)	**Melting point/freezing point**			:	> 100°C	DIN 51751
f)	**Flammability**			:	not applicable	
g)	**Lower and upper explosion limit/flammability limit**			:	No data available	
h)	**Flash point**			:	No flash point up to 100 °C.	
i)	**Ignition temperature in °C**			:	not applicable	
j)	**Decomposition temperature**			:	No data available	
k)	**pH**	**at °C**	**20**	:	6,5 - 8,5	DIN 19268
l)	**Viscosity**	**at °C**	**20**	:	< 20 mm²/s	DIN 51562 Newton
		at °C	**-15**	:	< 100 mm²/s	DIN 51562 Newton
m)	**Solubility**			:	Water: completely miscible	OECD 105
n)	**Partition coefficient n-octanol/water (log value)**			:	not applicable	
o)	**Vapour pressure**			:	No data available	
p)	**Density and/or relative density**	**at °C**	**20**	:	1,040 - 1,080 g/ml	DIN 12791
q)	**Relative vapour density**			:	No data available	
r)	**particle characteristics**			:	not applicable	

9.2 Other information

Information with regard to physical hazard classes

a)	Explosives	:	not applicable
b)	Explosives	:	not applicable
c)	Aerosols	:	not applicable
d)	Oxidising gas	:	not applicable
e)	Gases under pressure	:	not applicable
f)	Flammable liquids	:	not applicable
g)	Flammable solids	:	not applicable
h)	Self-reactive substances and mixtures	:	not applicable
i)	Pyrophoric liquids	:	not applicable
j)	Pyrophoric solids	:	not applicable
k)	Self-heating substances and mixtures	:	not applicable
l)	Substances or mixtures which, in contact with water, emit flammable gases	:	not applicable
m)	Oxidising liquids	:	not applicable
n)	Oxidizing solids	:	not applicable
o)	Organic peroxides	:	not applicable
p)	Corrosive to metals	:	See section 7 of the safety data sheet.
q)	Desensitised explosives	:	not applicable

Other safety characteristics

a)	Mechanical sensitivity	:	not applicable
b)	Self-accelerating polymerisation temperature (SAPT)	:	not applicable
c)	formation of explosible dust/air mixtures	:	not applicable
d)	acid/alkaline reserve	:	not applicable
e)	Evaporation rate	:	No data available
f)	miscibility	:	Water: completely miscible
g)	Conductivity	:	~ 1000 µS/cm
h)	Corrosiveness	:	Skin corrosion/irritation: none Serious eye damage/irritation: irritant
i)	gas group	:	not applicable
j)	Redox potential	:	not applicable
k)	radical formation potential	:	not applicable
l)	photocatalytic properties	:	not applicable

Additional hazards

Breathing is not possible whilst submerged in the foam. Take care when spraying people!

SECTION 10: Stability and reactivity

10.1 Reactivity

Materials to avoid

Alkali (lye), concentrated
Alkali metals
Acid, concentrated
Oxidising agent, strong
Reducing agent, strong
Acid halides

10.2 Chemical stability

No special measures are necessary.

10.3 Possibility of hazardous reactions

No special measures are necessary.

10.4 Conditions to avoid

Do not store at temperatures above: +50°C

10.5 Incompatible materials

See section 7. No additional measures necessary.

10.6 Hazardous decomposition products

Pyrolysis products, containing fluorine
Fluorinated hydrocarbons
Hydrofluoric acid

SECTION 11: Toxicological information

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

Test was carried out with a similar preparation/mixture.

a) Acute toxicity

Acute oral toxicity

Preparation related information

LD50	> 2000 mg/kg	The acute oral toxicity is corresponding to GHS-category 5.
Species	Rat	
Method	Bridging principle "Substantially similar mixtures".	

Information on ingredients

1,2-ETHANDIOL:
LD50 (7d) 2310 mg/kg ==>
Harmful if swallowed.
(Source: ECHA database «Registered substances»)

2-(2-BUTOXYETHOXY)ETHANOL:
LD50 (14d) 5530 mg/kg ==>
The acute oral toxicity is corresponding to GHS-category 5.
(Source: ECHA database «Registered substances»)

OCTYLSULFATE:
LD50 (14d) > 2000 mg/kg ==>
The acute oral toxicity is corresponding to GHS-category 5.
(Source: ECHA database «Registered substances»)

DECYLSULFATE:
LD50 (14d) 1200 mg/kg ==>
Harmful if swallowed.
(Source: ECHA database «Registered substances»)

ALKYLPOLYGLYCOSIDE:
LD50 (14d) > 2000 mg/kg ==>
The acute oral toxicity is corresponding to GHS-category 5.
(Source: ECHA database «Registered substances»)

FLUOROSURFACTANT:
LD50 (14d) > 5000 mg/kg ==>
The acute oral toxicity is corresponding to GHS-category 5.
(Source: Safety Data Sheet)

Acute dermal toxicity

Preparation related information

There are no data available on the mixture itself.

Information on ingredients

1,2-ETHANDIOL:

LD50 (14d) > 3500 mg/kg ==>
The acute dermal toxicity is corresponding to GHS-category 5.
(Source: ECHA database «Registered substances»)

2-(2-BUTOXYETHOXY)ETHANOL:

LD50 (1d) 2764 mg/kg ==>
The acute dermal toxicity is corresponding to GHS-category 5.
(Source: ECHA database «Registered substances»)

OCTYLSULFATE:

LD50 (14d) > 2000 mg/kg ==>
The acute dermal toxicity is corresponding to GHS-category 5.
(Source: ECHA database «Registered substances»)

DECYLSULFATE:

LD50 (14d) > 2000 mg/kg ==>
The acute dermal toxicity is corresponding to GHS-category 5.
(Source: ECHA database «Registered substances»)

ALKYLPOLYGLYCOSIDE:

LD50 (14d) > 2000 mg/kg ==>
The acute dermal toxicity is corresponding to GHS-category 5.
(Source: ECHA database «Registered substances»)

FLUOROSURFACTANT:

No data available
No information available. No classification in the above-mentioned hazard class
(Source: Safety Data Sheet)

Acute inhalation toxicity

Preparation related information

There are no data available on the mixture itself.

Information on ingredients

1,2-ETHANDIOL:

LC50 (6h) > 2,5 mg/L ==>
The acute inhalation toxicity related to vapours is corresponding to GHS-category 5.
(Source: ECHA database «Registered substances»)

2-(2-BUTOXYETHOXY)ETHANOL:

NOEC (2h) 29 ppm ==>
The acute inhalation toxicity related to vapours is corresponding to GHS-category 5.
(Source: ECHA database «Registered substances»)

OCTYLSULFATE:

No data available
No information available. No classification in the above-mentioned hazard class
(Source: Safety Data Sheet)

DECYLSULFATE:

No data available
No information available. No classification in the above-mentioned hazard class
(Source: Safety Data Sheet)

ALKYLPOLYGLYCOSIDE:

No data available
No information available. No classification in the above-mentioned hazard class
(Source: Safety Data Sheet)

FLUOROSURFACTANT:

No data available
No information available. No classification in the above-mentioned hazard class

(Source: Safety Data Sheet)

b) Skin corrosion/irritation

Preparation related information

non-irritant.

Species ---

Method Bridging principle "Substantially similar mixtures".

Information on ingredients

1,2-ETHANDIOL:

non-irritant.

(Source: Safety Data Sheet)

2-(2-BUTOXYETHOXY)ETHANOL:

non-irritant.

(Source: Safety Data Sheet)

OCTYLSULFATE:

Causes skin irritation.

(Source: Safety Data Sheet)

DECYLSULFATE:

Causes skin irritation.

(Source: Safety Data Sheet)

ALKYLPOLYGLYCOSIDE:

non-irritant.

(Source: Safety Data Sheet)

FLUOROSURFACTANT:

non-irritant.

(Source: Safety Data Sheet)

c) Serious eye damage/irritation

Preparation related information

Causes eye irritation.

Species ---

Method Bridging principle "Substantially similar mixtures".

Information on ingredients

1,2-ETHANDIOL:

non-irritant.

(Source: Safety Data Sheet)

2-(2-BUTOXYETHOXY)ETHANOL:

Causes serious eye irritation.

(Source: Safety Data Sheet)

OCTYLSULFATE:

Causes serious eye damage.

(Source: Safety Data Sheet)

DECYLSULFATE:

Causes serious eye damage.

(Source: Safety Data Sheet)

ALKYLPOLYGLYCOSIDE:

Causes serious eye damage.

(Source: Safety Data Sheet)

FLUOROSURFACTANT:

non-irritant.

(Source: Safety Data Sheet)

d) Respiratory or skin sensitisation

Preparation related information

There are no data available on the mixture itself.

Information on ingredients

1,2-ETHANDIOL:

not sensitising.
(Source: Safety Data Sheet)

2-(2-BUTOXYETHOXY)ETHANOL:

not sensitising.
(Source: Safety Data Sheet)

OCTYLSULFATE:

not sensitising.
(Source: Safety Data Sheet)

DECYLSULFATE:

not sensitising.
(Source: Safety Data Sheet)

ALKYLPOLYGLYCOSIDE:

not sensitising.
(Source: Safety Data Sheet)

FLUOROSURFACTANT:

not sensitising.
(Source: Safety Data Sheet)

e) Germ cell mutagenicity

Preparation related information

There are no data available on the mixture itself.

Information on ingredients

1,2-ETHANDIOL:

No indications of human germ cell mutagenicity exist.
(Source: Safety Data Sheet)

2-(2-BUTOXYETHOXY)ETHANOL:

No indications of human germ cell mutagenicity exist.
(Source: Safety Data Sheet)

OCTYLSULFATE:

No indications of human germ cell mutagenicity exist.
(Source: Safety Data Sheet)

DECYLSULFATE:

No indications of human germ cell mutagenicity exist.
(Source: Safety Data Sheet)

ALKYLPOLYGLYCOSIDE:

No indications of human germ cell mutagenicity exist.
(Source: Safety Data Sheet)

FLUOROSURFACTANT:

No indications of human germ cell mutagenicity exist.
(Source: Safety Data Sheet)

f) Carcinogenicity

Preparation related information

There are no data available on the mixture itself.

Information on ingredients

1,2-ETHANDIOL:

No indication of human carcinogenicity.
(Source: Safety Data Sheet)

2-(2-BUTOXYETHOXY)ETHANOL:

No indication of human carcinogenicity.
(Source: Safety Data Sheet)

OCTYLSULFATE:

No indication of human carcinogenicity.
(Source: Safety Data Sheet)

DECYLSULFATE:
No indication of human carcinogenicity.
(Source: Safety Data Sheet)
ALKYLPOLYGLYCOSIDE:
No indication of human carcinogenicity.
(Source: Safety Data Sheet)
FLUOROSURFACTANT:
No indication of human carcinogenicity.
(Source: Safety Data Sheet)

g) Reproductive toxicity

Preparation related information

There are no data available on the mixture itself.

Information on ingredients

1,2-ETHANDIOL:
No indications of human reproductive toxicity exist.
(Source: Safety Data Sheet)
2-(2-BUTOXYETHOXY)ETHANOL:
No indications of human reproductive toxicity exist.
(Source: Safety Data Sheet)
OCTYLSULFATE:
No indications of human reproductive toxicity exist.
(Source: Safety Data Sheet)
DECYLSULFATE:
No indications of human reproductive toxicity exist.
(Source: Safety Data Sheet)
ALKYLPOLYGLYCOSIDE:
No indications of human reproductive toxicity exist.
(Source: Safety Data Sheet)
FLUOROSURFACTANT:
No indications of human reproductive toxicity exist.
(Source: Safety Data Sheet)

h) STOT-single exposure

Preparation related information

There are no data available on the mixture itself.

Information on ingredients

1,2-ETHANDIOL:
No known symptoms to date.
(Source: Safety Data Sheet)
2-(2-BUTOXYETHOXY)ETHANOL:
No known symptoms to date.
(Source: Safety Data Sheet)
OCTYLSULFATE:
No known symptoms to date.
(Source: Safety Data Sheet)
DECYLSULFATE:
No known symptoms to date.
(Source: Safety Data Sheet)
ALKYLPOLYGLYCOSIDE:
No known symptoms to date.
(Source: Safety Data Sheet)
FLUOROSURFACTANT:
No known symptoms to date.
(Source: Safety Data Sheet)

i) STOT-repeated exposure

Preparation related information

There are no data available on the mixture itself.

Information on ingredients

1,2-ETHANDIOL:

May cause damage to kidneys through prolonged or repeated exposure if swallowed.
(Source: Safety Data Sheet)

2-(2-BUTOXYETHOXY)ETHANOL:

No known symptoms to date.
(Source: Safety Data Sheet)

OCTYLSULFATE:

No known symptoms to date.
(Source: Safety Data Sheet)

DECYLSULFATE:

No known symptoms to date.
(Source: Safety Data Sheet)

ALKYLPOLYGLYCOSIDE:

No known symptoms to date.
(Source: Safety Data Sheet)

FLUOROSURFACTANT:

No known symptoms to date.
(Source: Safety Data Sheet)

j) Aspiration hazard

Preparation related information

There are no data available on the mixture itself.

Information on ingredients

1,2-ETHANDIOL:

No known symptoms to date.
(Source: Safety Data Sheet)

2-(2-BUTOXYETHOXY)ETHANOL:

No known symptoms to date.
(Source: Safety Data Sheet)

OCTYLSULFATE:

No known symptoms to date.
(Source: Safety Data Sheet)

DECYLSULFATE:

No known symptoms to date.
(Source: Safety Data Sheet)

ALKYLPOLYGLYCOSIDE:

No known symptoms to date.
(Source: Safety Data Sheet)

FLUOROSURFACTANT:

No known symptoms to date.
(Source: Safety Data Sheet)

11.2 Information on other hazards

Endocrine disrupting properties

Preparation related information

There are no data available on the mixture itself.

Information on ingredients

1,2-ETHANDIOL:

This substance does not have endocrine disrupting properties with respect to humans.
(Source: Safety Data Sheet)

2-(2-BUTOXYETHOXY)ETHANOL:

This substance does not have endocrine disrupting properties with respect to humans.

(Source: Safety Data Sheet)

OCTYLSULFATE:

This substance does not have endocrine disrupting properties with respect to humans.
(Source: Safety Data Sheet)

DECYLSULFATE:

This substance does not have endocrine disrupting properties with respect to humans.
(Source: Safety Data Sheet)

ALKYLPOLYGLYCOSIDE:

This substance does not have endocrine disrupting properties with respect to humans.
(Source: Safety Data Sheet)

FLUOROSURFACTANT:

This substance does not have endocrine disrupting properties with respect to humans.
(Source: Safety Data Sheet)

Other information

Breathing is not possible whilst submerged in the foam. Take care when spraying people!

SECTION 12: Ecological information

12.1 Toxicity

Acute (short-term) fish toxicity

Preparation related information

Effective dose	LC50	: > 100 < 1000* mg/L
Exposure time		: 96 h
Species		: Leuciscus idus (golden orfe)
Method		: Bridging principle "Substantially similar mixtures".

Information on ingredients

1,2-ETHANDIOL:

LC50 (96h) > 72860 mg/L
(Source: ECHA database «Registered substances»)

2-(2-BUTOXYETHOXY)ETHANOL:

LC50 (96hr) 1300mg/L
(Source: ECHA database «Registered substances»)

OCTYLSULFATE:

LC50 (96h) > 100 mg/L; NOEC (96h) 100 mg/L
(Source: ECHA database «Registered substances»)

DECYLSULFATE:

LC50 (48h) 13 mg/L
(Source: ECHA database «Registered substances»)

ALKYLPOLYGLYCOSIDE:

LC50 (96h) 100,81 mg/L
(Source: ECHA database «Registered substances»)

FLUOROSURFACTANT:

No data available
(Source: Safety Data Sheet)

Acute (short-term) toxicity to crustacea

Preparation related information

Effective dose	EC50	: > 100 < 1000* mg/L
Exposure time		: 48 h
Species		: Daphnia magna (Big water flea)
Method		: Bridging principle "Substantially similar mixtures".

Information on ingredients

1,2-ETHANDIOL:

EC50 (48h) > 13900 mg/L

(Source: ECHA database «Registered substances»)

2-(2-BUTOXYETHOXY)ETHANOL:

EC50 (48hr) > 1101 mg/L

(Source: ECHA database «Registered substances»)

OCTYLSULFATE:

EC50 (48h) > 100 mg/L; NOEC (48 h) 100 mg/L

(Source: ECHA database «Registered substances»)

DECYLSULFATE:

EC50 (48h) > 100 mg/L

(Source: ECHA database «Registered substances»)

ALKYLPOLYGLYCOSIDE:

EC50 (48h) > 100 mg/L

(Source: ECHA database «Registered substances»)

FLUOROSURFACTANT:

No data available

(Source: Safety Data Sheet)

Acute (short-term) toxicity to algae and cyanobacteria

Preparation related information

Effective dose	EC50	: > 10 < 100*	mg/L
Exposure time		: 72 h	
Species		: Scenedesmus subspicatus	
Method		: Bridging principle "Substantially similar mixtures".	

Information on ingredients

1,2-ETHANDIOL:

EC50 (96h) > 6500 mg/L; NOEC (96h) 479 mg/L

(Source: ECHA database «Registered substances»)

2-(2-BUTOXYETHOXY)ETHANOL:

EC50 (72h) 1 101 mg/L

(Source: ECHA database «Registered substances»)

OCTYLSULFATE:

EC50 (72h) > 511 mg/L; NOEC (72h) 199 mg/L

(Source: ECHA database «Registered substances»)

DECYLSULFATE:

EC50 (72h) 8,64 mg/L; NOEC (72h) 0,95 mg/L

(Source: ECHA database «Registered substances»)

ALKYLPOLYGLYCOSIDE:

EC50 (72h) 27,22 mg/L; NOEC (72h) 6,25 mg/L

(Source: ECHA database «Registered substances»)

FLUOROSURFACTANT:

No data available

(Source: Safety Data Sheet)

Effects in sewage plants

Preparation related information

Analytical method : Respiratory inhibition of municipal activated sludge.

1000*	mg/L	► Concentration	: 100%	Dilution	: > 1000*	
100000*	mg/L	► Concentration	: 1%	Dilution	: > 10*	

Method : Bridging principle "Substantially similar mixtures".

Information on ingredients

1,2-ETHANDIOL:

NOEC (0,5h) > 1995 mg/L

(Source: ECHA database «Registered substances»)

2-(2-BUTOXYETHOXY)ETHANOL:

NOEC (0,5h) 1995 mg/L

(Source: ECHA database «Registered substances»)

OCTYLSULFATE:
EC50 (3h) 135 mg/L
(Source: ECHA database «Registered substances»)
DECYLSULFATE:
EC50 (3h) 135 mg/L
(Source: ECHA database «Registered substances»)
ALKYLPOLYGLYCOSIDE:
EC50 (6h) > 560 mg/L
(Source: ECHA database «Registered substances»)
FLUOROSURFACTANT:
No data available
(Source: Safety Data Sheet)

The product contains fluorosurfactants that are not completely biodegradable.
Some of the components are poorly biodegradable.

Remark
Observe local regulations concerning effluent treatment.
Special pre-treatments are necessary.

* The statement is derived from products of similar structure or composition.

12.2 Persistence and degradability

Biodegradation
Preparation related information
Readily biodegradable (according to OECD criteria).
Additional information : The product contains fluorosurfactants that are not completely biodegradable.
Degradation rate : > 70%*
Test duration : 28 d
Analytical method : BOD (% of COD).
Method : Bridging principle "Substantially similar mixtures".
Type : Aerobic biological treatment
Information on ingredients
1,2-ETHANDIOL:
> 90% (10d) OECD 301A
Readily biodegradable (according to OECD criteria).
(Source: ECHA database «Registered substances»)
2-(2-BUTOXYETHOXY)ETHANOL:
92% (28d) OECD 301 E
Readily biodegradable (according to OECD criteria).
(Source: ECHA database «Registered substances»)
OCTYLSULFATE:
93,5% (29d) OECD 301 B
Readily biodegradable (according to OECD criteria).
(Source: ECHA database «Registered substances»)
DECYLSULFATE:
92% (30d) OECD 301 D
Readily biodegradable (according to OECD criteria).
(Source: ECHA database «Registered substances»)
ALKYLPOLYGLYCOSIDE:
70% (28d) OECD 301 A
Readily biodegradable (according to OECD criteria).
(Source: ECHA database «Registered substances»)
FLUOROSURFACTANT:
No data available

No classification in the above-mentioned hazard class
(Source: Safety Data Sheet)

Chemical oxygen demand (COD)

< 1500000*	mg*O2/L	▶	Concentration	: 100%	Method	DIN EN 38409-H41-1		
< 15000*	mg*O2/L	▶	Concentration	: 1%	Method	DIN EN 38409-H41-1		

Biochemical oxygen demand

< 600000*	mg*O2/L	▶	Concentration	: 100%	Method	DIN EN 1899-1	Test duration	5 d
< 6000*	mg*O2/L	▶	Concentration	: 1%	Method	DIN EN 1899-1	Test duration	5 d

BOD5/COD ratio
40%

* The statement is derived from products of similar structure or composition.

12.3 Bioaccumulative potential

Preparation related information
There are no data available on the mixture itself.
Information on ingredients
1,2-ETHANDIOL:
log Kow -1,36
No indication of bioaccumulation potential.
(Source: ECHA database «Registered substances»)
2-(2-BUTOXYETHOXY)ETHANOL:
log Kow < 3
No indication of bioaccumulation potential.
(Source: ECHA database «Registered substances»)
OCTYLSULFATE:
log Pow < -2.31
No indication of bioaccumulation potential.
(Source: ECHA database «Registered substances»)
DECYLSULFATE:
log Pow 1.72
No indication of bioaccumulation potential.
(Source: ECHA database «Registered substances»)
ALKYLPOLYGLYCOSIDE:
log Kow < 1,77
No indication of bioaccumulation potential.
(Source: ECHA database «Registered substances»)
FLUOROSURFACTANT:
No data available
No information available. No classification in the above-mentioned hazard class
(Source: Safety Data Sheet)

12.4 Mobility in soil

If product enters soil, it will be mobile and may contaminate groundwater.

12.5 Results of PBT and vPvB assessment

Preparation related information
There are no data available on the mixture itself.
Information on ingredients
1,2-ETHANDIOL:
This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
(Source: Safety Data Sheet)

2-(2-BUTOXYETHOXY)ETHANOL:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
(Source: Safety Data Sheet)

OCTYLSULFATE:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
(Source: Safety Data Sheet)

DECYLSULFATE:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
(Source: Safety Data Sheet)

ALKYLPOLYGLYCOSIDE:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
(Source: Safety Data Sheet)

FLUOROSURFACTANT:

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
(Source: Safety Data Sheet)

12.6 Endocrine disrupting properties

Preparation related information

There are no data available on the mixture itself.

Information on ingredients

1,2-ETHANDIOL:

This substance does not have endocrine disrupting properties with respect to humans.
(Source: Safety Data Sheet)

2-(2-BUTOXYETHOXY)ETHANOL:

This substance does not have endocrine disrupting properties with respect to humans.
(Source: Safety Data Sheet)

OCTYLSULFATE:

This substance does not have endocrine disrupting properties with respect to humans.
(Source: Safety Data Sheet)

DECYLSULFATE:

This substance does not have endocrine disrupting properties with respect to humans.
(Source: Safety Data Sheet)

ALKYLPOLYGLYCOSIDE:

This substance does not have endocrine disrupting properties with respect to humans.
(Source: Safety Data Sheet)

FLUOROSURFACTANT:

This substance does not have endocrine disrupting properties with respect to humans.
(Source: Safety Data Sheet)

12.7 Other adverse effects

The product contains fluorosurfactants that are not completely biodegradable.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Dispose of waste according to applicable legislation.

Waste codes/waste designations according to EWC/AVV

Waste code product

16	WASTES NOT OTHERWISE SPECIFIED IN THE LIST
1603	off-specification batches and unused products
160305*	organic wastes containing dangerous substances

Waste code packaging

15	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
1501	packaging (including separately collected municipal packaging waste)
150110*	packaging containing residues of or contaminated by dangerous substances

Remark
Delivery to an approved waste disposal company.
Send to a hazardous waste incinerator facility under observation of official regulations.

SECTION 14: Transport information

14.1 UN number or ID number
none

14.2 UN proper shipping name
not applicable

14.3 Transport hazard class(es)
Land transport (ADR/RID)
No dangerous good in sense of these transport regulations.
Inland waterway craft (ADN)
No dangerous good in sense of these transport regulations.
Sea transport (IMDG)
No dangerous good in sense of these transport regulations.
Air transport (ICAO-TI / IATA-DGR)
No dangerous good in sense of these transport regulations.

14.4 Packing group
not applicable

14.5 Environmental hazards
none
Marine pollutant : No

14.6 Special precautions for user
none

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
EU legislation
Regulation (EC) No. 2037/2000 concerning materials, which cause damage to the ozone layer.
not applicable

Regulation (EC) No. 304/2003 of the European parliament and of the council concerning the export and import of dangerous chemicals
not applicable

Directive 96/59/EC (PCB-guideline)
not applicable

Regulation (EC) No. 648/2004 (Detergents regulation)
The surfactant contained in this mixture complies with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents.

Information according to 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline).
Volatile organic compounds (VOC) content in percent by weight:: max. 25

Regulation (EC) No. 842/2006 on certain fluorinated greenhouse gases
not applicable

Regulation (EC) No 2019/1021 [POP/PFOS-Regulation]
The product fulfills all requirements and limit values of this EU regulation.

Regulation (EC) No 2020/784 [PFOA-Regulation]
The product fulfills all requirements and limit values of this EU regulation.

Regulation (EC) No 2021/1297 [C9-C14-PFCA-Regulation]
The product fulfills all requirements and limit values of this EU regulation.

National regulations

Störfallverordnung
This product is not classified according to StörfallVO.

Water hazard class
slightly hazardous to water (WGK 1)
Self-classification according to AwSV (mixture).

Annex Chemikalien-Verbotsverordnung (ChemVerbotsV)
not applicable

15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

The product described in the Safety Data Sheet may only be used for its intended purpose. For exercises please observe the recommendations of the technical committee of BMU/LAMA. The details in this safety data sheet are based on today´s stand of our knowledge and is applicable to the product with regard to appropriate safety precautions. They do not represent any guarantee of the properties of the product and do not establish any legal relationship.

Please refer to our internet website for more information: www.sthamer.com

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

Classification for the 1% application solution of STHAMEX-AFFF 1% F-15 #4141:
The information in this safety data sheet only applies to the unchanged product in the delivery condition. An application solution prepared therefrom by diluting it with water as recommended usually has significantly fewer hazardous features due to the dilution principle and can even be unclassified. See

also the environmental data sheet provided by us.

Relevant R-, H- and EUH-phrases (Number and full text)

H302	Harmful if swallowed or if inhaled.
H315	Causes skin and eye irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H373.8	May cause damage to kidneys through prolonged or repeated exposure if swallowed.