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

Product identifiers

MOUSSOL®-APS 3/3 F-15 #3341

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

Use of the substance/mixture
fire extinguishing agent

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
Dept. responsible for information	Dr. Prall, +49 (0)40/736168-31
Emergency telephone number	+49 (0)40/736168-0

Emergency telephone number

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

SECTION 2: Hazards identification

Classification of the substance or mixture

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

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.
	P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
	P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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.

Other hazards

The product contains non-biodegradable fluorosurfactants.
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!

SECTION 3: Composition / information on ingredients

Substances

Mixtures

1,2-ETHANDIOL
CAS No.: 107-21-1
EC No.: 203-473-3
REACH No.: 01-2119456816-28-XXXX
Concentration: < 10%
Classification according to Regulation (EC) No. 1272/2008 [CLP]: GHS07-GHS08; Acute Tox. 4-STOT RE 2; H302-H373

2-(2-BUTOXYETHOXY)ETHANOL
CAS No.: 112-34-5
EC No.: 203-961-6
REACH No.: 01-2119475104-44-XXXX
Concentration: < 10%
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.: 01-2119966908-16-XXXX
Concentration: < 5%
Classification according to Regulation (EC) No. 1272/2008 [CLP]: GHS05; Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1; H302, H315, H318

DECYLSULFATE
CAS No.: 142-87-0
EC No.: 205-568-5
REACH No.: 01-2119972287-26-XXXX
Concentration: < 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: < 5%
Classification according to Regulation (EC) No. 1272/2008 [CLP]: GHS05; Eye Dam. 1; H318

FLUOROSURFACTANT
CAS No.: This information is not available.
EC No.: This information is not available.
REACH No.: This information is not available.
Concentration: < 5%
Classification according to Regulation (EC) No. 1272/2008 [CLP]: none

Full text of R-, H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

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.

After 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.

Most important symptoms and effects, both acute and delayed

Drowsiness
Nausea
Gastrointestinal complaints

Indication of any immediate medical attention and special treatment needed

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

SECTION 5: Firefighting measures

Extinguishing media

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

Special hazards arising from the substance or mixture

The product itself does not burn.

Advice for firefighters

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation.

Environmental precautions

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

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

Reference to other sections

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

SECTION 7: Handling and storage

Precautions for safe handling

Avoid
- Skin contact
- Eye contact

Wear personal protection equipment (see chapter 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.
See chapter 8.

Advices on general occupational hygiene

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

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

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

Control parameters

Substance name: 2-(2-Butoxyethoxy)ethanol
CAS No.: 112-34-5
EC No.: 203-961-6
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)
peak limitation: ---; Limit value type (country of origin) Ceil (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)
peak limitation: ---; Limit value type (country of origin) Ceil (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)
peak limitation: ---; Limit value type (country of origin) Ceil (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)
peak limitation: ---; Limit value type (country of origin) Ceil (IE)

Substance name: 1,2-Ethandiol
CAS No.: 107-21-1
EC No.: 203-473-3
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)
peak limitation: ---; Limit value type (country of origin) Ceil (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)
peak limitation: ---; Limit value type (country of origin) Ceil (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)
peak limitation: ---; Limit value type (country of origin) Ceil (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)
peak limitation: ---; Limit value type (country of origin) Ceil (IE)

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 (maximum wearing time)

120 min.

Recommended glove articles

DIN EN 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 (VAwS).

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

Information on basic physical and chemical properties

Physical state		:	liquid		
Colour		:	yellow / brown		
pH	**at °C 20**	:	6,5 - 8,5	DIN 19268	
Density	**at °C 20**	:	1,020 - 1,060 g/ml	DIN 12791	
Dynamic viscosity	**at °C 20**	:	< 250(100) mPa*s @ 75(375) 1/s	DIN 53019	structure viscous
Dynamic viscosity	**at °C -15**	:	< 500(200) mPa*s @ 75(375) 1/s	DIN 53019	structure viscous
Solidification point		:	-15°C	DIN ISO 3016	
Initial boiling point and boiling range		:	> 100°C	DIN 51751	
Water solubility (g/L)		:	completely miscible	OECD 105	
Flash point		:	No flash point up to 100 °C.		

Physical hazards

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

Other information

SECTION 10: Stability and reactivity

Reactivity

Materials to avoid

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

Chemical stability

No special measures are necessary.

Possibility of hazardous reactions

No special measures are necessary.

Conditions to avoid

Do not store at temperatures above: +50°C

Incompatible materials

See section 7. No additional measures necessary.

Hazardous decomposition products

Pyrolysis products, containing fluorine
Fluorinated hydrocarbons
Hydrofluoric acid

SECTION 11: Toxicological information

Mixture related information

Non-human toxikological data

Acute oral toxicity

LD50	> 2000 mg/kg	The acute oral toxicity is corresponding to GHS-category 5.
Species	Rat	
Method	Limit test.	

Acute dermal toxicity

The product has not been tested.

Acute inhalation toxicity

The product has not been tested.

Irritant and corrosive effects

Skin corrosion/irritation

Not an irritant.

species	---
Method	The product has not been tested. Test was carried out with a similar preparation/mixture.

Eye damage/irritation

Irritant.

species	---
Method	The product has not been tested. Test was carried out with a similar preparation/mixture.

Irritation to respiratory tract
The product has not been tested.

Respiratory or skin sensitisation
The product has not been tested.

Repeated dose toxicity
The product has not been tested.

Carcinogenicity
The product has not been tested.

In vivo mutagenicity/genotoxicity
The product has not been tested.

Reproductive toxicity
The product has not been tested.

SECTION 12: Ecological information

Toxicity

Acute (short-term) fish toxicity

Effective dose	LC50	: > 100 < 1000* mg/L
Exposure time		: 96 h
Species		: Leuciscus idus (golden orfe)
Method		: OECD 203

Acute (short-term) toxicity to crustacea

Effective dose	EC50	: > 100 < 1000* mg/L
Exposure time		: 48 h
Species		: Daphnia magna (Big water flea)
Method		: OECD 202

Acute (short-term) toxicity to aquatic algae and cyanobacteria

Effective dose	EC50	: > 10 < 100* mg/L
Exposure time		: 72 h
Species		: Scenedesmus subspicatus
Method		: OECD 201

Effects in sewage plants

Method : Respiratory inhibition of municipal activated sludge.

1000* mg/L	▶	Concentration	: 100%	Dilution	: > 1000*
33300* mg/L	▶	Concentration	: 3%	Dilution	: > 30*

Technically correct releases of minimal concentrations to adapted biological sewage plants, will not disturb the biodegradability of activated sludge.
The product may lead to foaming in sewage plants.

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

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

Persistence and degradability

Biodegradation

Readily biodegradable (according to OECD criteria).

Degradation rate (%)	: > 70%*
Test durarion	: 28 d
Analytical method	: BOD (% of COD).
Method	: OECD 302B/ ISO 9888/ EEC 92/69/V, C.9
type	: Aerobic biological treatment

Chemical oyxgen demand (COD)

< 1000000*	mg*O2/L	▶ Concentration	: 100%	Method	DIN EN 38409-H41-1		
< 30000*	mg*O2/L	▶ Concentration	: 3%	Method	DIN EN 38409-H41-1		

Biochemical oxygen demand (BOD)

< 600000*	mg*O2/L	▶ Concentration	: 100%	Method	DIN EN 1899-1	Test durarion	5 d
< 18000*	mg*O2/L	▶ Concentration	: 3%	Method	DIN EN 1899-1	Test durarion	5 d

BOD5/COD ratio

60%

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

Bioaccumulative potential

1,2-ETHANDIOL: No indication of bioaccumulation potential.
2-(2-BUTOXYETHOXY)ETHANOL: No indication of bioaccumulation potential.
OCTYLSULFATE: No indication of bioaccumulation potential.
DECYLSULFATE: No indication of bioaccumulation potential.
ALKYLPOLYGLYCOSIDE: No indication of bioaccumulation potential.

Mobility in soil

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

Results of PBT and vPvB assessment

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.

Other adverse effects

The product contains non-biodegradable fluorosurfactants.

SECTION 13: Disposal considerations

Waste treatment methods

Dispose of waste according to "Kreislaufwirtschafts- und Abfallgesetz (KrW-/AbfG)".
Dispose of waste according to applicable legislation.

List of proposed waste codes/waste designations in accordance with EWC

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.
Dispose according to legislation.

SECTION 14: Transport information

UN number

none

UN proper shipping name

not applicable

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.

Packing group

not applicable

Environmental hazards

none
Marine pollutant : No

Special precautions for user

none

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not applicable

SECTION 15: Regulatory information

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 surfactants contained in this preparation comply 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. 10

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

National regulations

Störfallverordnung
Not subject to StörfallVO.

Water hazard class (WGK)
slightly hazardous to water (WGK 1)
Classification according to VwVwS, Annex 4.

annex Chemikalien-Verbotsverordnung (ChemVerbotsV)
not applicable

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.

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

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