



Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)
MOUSSOL®-FF 3/6 F-5 #7942

V-13

Print date: 28.12.14
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifiers

MOUSSOL®-FF 3/6 F-5 #7942

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

GlZ-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

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



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Substances

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Mixtures

1,2-ETHANDIOL

CAS No.: 107-21-1

EC No.: 203-473-3

REACH No.: 01-2119456816-28-XXXX

Concentration: < 15%

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

TRIETHANOLAMMONIUM-LAURYL SULFATE

CAS No.: 85665-45-8

EC No.: 288-134-8

REACH No.: 01-2119966908-16-XXXX

Concentration: < 10%

Classification according to Regulation (EC) No. 1272/2008 [CLP]: GHS05; Skin Irrit. 2-Eye Irrit. 2-Aquatic Chronic 3; H315-H319-H412

ALKYLAMIDOBETAINE

CAS No.: 147170-44-3

EC No.: 263-058-8

REACH No.: 01-2119552480-44-XXXX

Concentration: < 5%

Classification according to Regulation (EC) No. 1272/2008 [CLP]: GHS05; Eye Dam. 1-Aquatic Chronic 3; H318-H412

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).



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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)



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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)



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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	:	colourless	/	yellow
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	:	< 800(400) mPa*s @ 75(375) 1/s	DIN 53019 structure viscous
Dynamic viscosity	at °C -5	:	< 1500(750) mPa*s @ 75(375) 1/s	DIN 53019 structure viscous
Solidification point	:		-5°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

SECTION 11: Toxicological information**Mixture related information****Non-human toxicological data****Acute oral toxicity**

LD50	> 2000 mg/kg	The acute oral toxicity is corresponding to GHS-category 5.
Species	Rat	
Method	OECD 420	

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	Albino rabbit
Method	OECD 404

Eye damage/irritation

Irritant.

species	Albino rabbit
Method	OECD 404

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 : ~ 240 mg/L
 Exposure time : 96 h
 Species : Leuciscus idus (golden orfe)
 Method : OECD 203

Acute (short-term) toxicity to crustacea

Effective dose EC50 : ~ 210 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 : ~ 210 mg/L
 Exposure time : 72 h
 Species : Scenedesmus subspicatus
 Method : OECD 201

Effects in sewage plants

Method : Respiratory inhibition of municipal activated sludge.
 500 mg/L ► Concentration : 100% Dilution : > 2000
 16600 mg/L ► Concentration : 3% Dilution : > 60

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.

Persistence and degradability

Biodegradation

Readily biodegradable (according to OECD criteria).
 Degradation rate (%) : ~ 99%
 Test duration : 28 d
 Analytical method : BOD (% of COD).
 Method : OECD 302B/ ISO 9888/ EEC 92/69/V, C.9
 type : Aerobic biological treatment

Chemical oxygen demand (COD)

~ 488000 mg*O2/L ► Concentration : 100% Method : DIN EN 38409-H41-1
 ~ 14640 mg*O2/L ► Concentration : 3% Method : DIN EN 38409-H41-1

Biochemical oxygen demand (BOD)

~ 170000 mg*O2/L ► Concentration : 100% Method : DIN EN 1899-1 Test duration : 5 d
 ~ 5100 mg*O2/L ► Concentration : 3% Method : DIN EN 1899-1 Test duration : 5 d

BOD5/COD ratio



35%

Bioaccumulative potential

1,2-ETHANDIOL: No indication of bioaccumulation potential.
 2-(2-BUTOXYETHOXY)ETHANOL: No indication of bioaccumulation potential.
 TRIETHANOLAMMONIUM-LAURYL SULFATE: No indication of bioaccumulation potential.
 ALKYLAMIDOBETAINE: 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.
 TRIETHANOLAMMONIUM-LAURYL SULFATE: This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.
 ALKYLAMIDOBETAINE: This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

Other adverse effects

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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.



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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.
H412	Harmful to aquatic life with long lasting effects.