

# Material Safety Data Sheet

in accordance with Regulation (EC) No.  
1907/2006



Trade name: F-Exx 8.o<sup>®</sup> C

Revised: Oct 24<sup>th</sup>, 2014

Version: 1.0.3

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## 1. Name of the substance or preparation and company name

**Trade name:** F-Exx<sup>®</sup> 8.o C, Fire-Ex 8.o C  
**Product Usage:** Extinguishing agent for initial fires  
Contents: Liquid Extinguishing agent Dr. Sthamer Mousseal CF F-20 (Premix)  
without gaseous blowing agent  
**Manufacturer/Supplier:** Tectro SMT GmbH  
Thrasoltstr. 46  
D-55439 Saarburg  
Germany  
Phone: +49 (0)6581 / 912-0  
Fax: +49 (0)6581 / 912-410  
Contact: [feuerloescher@tectro.de](mailto:feuerloescher@tectro.de)  
**Emergency number:** +49 (0)40 / 736 168-0  
General Poison Center: +49 (0) 551 / 19240 (Universität Göttingen)

## 2. Potential Hazards

### 2.1 Classification:

none, product is not a pressure vessel within the definition of the Directives 97/23/EC (Pressure Equipment Directive) and 1999/36/EC (TPED).

This mixture is classified as not hazardous according to 1999/45/EC.

### 2.2 Labeling

Labeling (67/548/EWG or 1999/45/EG)

R-phrases ----

S-phrases S24/25 Avoid contact with skin and eyes.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label to the medical staff.

### 2.3 Other hazards:

The product contains non-biodegradable fluorosurfactants.

May harm the aquatic fauna when entering surface waters.

May harm the bacteria population in waste water treatment plants when entering the sewerage system.

Breathing is not possible if person is submerged in the foam. Take care when spraying persons on fire!

## 3. Mixtures

### 3.1 Chemical Characterisation:

Aqueous concentrate of alcohols and salts.

### 3.2 Hazardous Ingredients:

#### 3.2.1 Classification in accordance with Directive 67/548/EEC or 1999/45/EC

Substance	CAS-Nr.	EINECS-No.	Labelling	R-phrases	% w/w
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1,2-Ethandiol	107-21-1	203-473-3	Xn	22	< 10
2-(2-Butoxyethoxy)Ethanol	112-34-5	203-961-6	Xi	36	< 5
Calciumchloride	10035-04-8	233-140-8	Xi	36	< 5

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

### 3.2.2 GHS-Classification of dangerous ingredients according to (EC) Regulation No.: 1272/2008

#### Substance

#### Property

1,2-Ethandiol

Acute Toxic [4-STOT RE 2]; H302-H373.8



Signal word: «Danger»

2-(2-Butoxyethoxy)Ethanol

Eye Irritation, category 2: H319



Signal word: «Danger»

Text of the H-phrases: see Chapter 16

### 3.3 Other Ingredients

Substance	CAS no.	EINECS no.	Labelling	R-phrases	% (w/w)
Water	7732-18-5	231-791-2	n.a.	36/38	> 65

## 4. First aid measures

#### General information:

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

#### After inhalation of aerosols:

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

#### After contact with skin:

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:

Dizziness  
Nausea  
Gastrointestinal disorders

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*Indication of any immediate medical attention and special treatment needed:* If person is unconscious place in recovery position and seek medical advice.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

## 5. Fire-fighting 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 or ignite.

*Advice for firefighters:* Collect contaminated fire extinguishing water separately. Do not allow entering into drains or surface water.

## 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 absorption:  
Sand.  
Sawdust.  
Chemical binding agents, containing acids.

See protective measures under point 7 and 8.

## 7. Handling and storage

*Precautions for safe handling:* Avoid Skin contact, Eye contact. Wear personal protection equipment. (see chapter 8).

*Fire preventive measures:* No special fire protection measures are necessary.

*Storage:* Container does not hold compressed gas. Store between -20°C and 60°C Protect from heat and sunlight. VCI storage class: 12.

*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.

*Precautions for combined storage:* Not necessary

*Further information on storage conditions:* None

## 8. Exposure controls/personal protection

8.1 *Additional information for the design of technical systems:* none

8.2 *Control parameters:*

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## **Substance name: 2-(2-Butoxyethoxy)ethanol**

CAS No.: 112-34-5

EG No.: 203-961-6

### **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)

### **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)

### **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)

### **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

EG No.: 203-473-3

### **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)

### **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)

### **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)

### **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)

### **8.3 General health and safety measures**

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..

### **8.4 Protective clothing:**

For fire-fighting, select personal protective equipment appropriate for the burning materials.

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<i>Respiratory protection:</i>	Usually no personal respiratory protection necessary
<i>Hand protection:</i>	Suitable gloves type. Gloves with long cuffs. 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.
<i>Eye protection:</i>	Suitable eye protection. Eye glasses with side protection. Goggles. Face protection shield. Recommended eye protection articles: DIN EN 166
<i>Environmental exposure controls:</i>	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.

## 9. Information on basic physical and chemical properties

### 9.1 Appearance

<i>Consistency:</i>	liquid
<i>Colour:</i>	yellow/ brown

### 9.2 Safety-related data

<i>Density (at°C 20)</i>	1,060 – 1,100 g/ml
<i>pH value (at°C 20):</i>	6,5 – 7,5
<i>Solidification point:</i>	-20°C
<i>Boiling temperature / boiling range:</i>	> 100°C
<i>Water solubility (g/L):</i>	complete miscible
<i>Flash point:</i>	No flash point up to 100 °C.
<i>Kinematic viscosity (at°C 20):</i>	< 5 mm <sup>2</sup> /s
<i>Kinematische Viskosität (at°C -20):</i>	< 80 mm <sup>2</sup> /s

*Physical hazards:* Breathing is not possible whilst submerged in the foam. Be cautious when spraying people!

## 10. Stability and reactivity

<i>Materials to avoid:</i>	Alkali (lye), concentrated. Alkali metals. Acid, concentrated. Oxidizing agent, strong. Reducing agent, strong. Acid halides.
<i>Chemical stability:</i>	No special measures are necessary.
<i>Possibility of hazardous reactions:</i>	No special measures are necessary.
<i>Hazardous decomposition products:</i>	Pyrolysis products, containing fluorine. fluorinated hydrocarbons. Hydrofluoric acid.

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*Conditions to avoid:* Do not store at temperatures above: + 60°C

## 11. Toxicological information

### 11.1 Product data:

11.1.1 *Mixture related information:* Test was carried out with a similar preparation/mixture.

### 11.1.2 Toxicological Tests:

*Acute oral toxicity:* LC50 (Species: Rat): > 2000 mg/kg

*Acute dermal toxicity:* The product has not been tested

*Acute inhalation toxicity:* The product has not been tested.

### 11.1.3 Irritant and corrosive effects

*Primary irritation to the skin:* Not an irritant.

*Irritation to eyes:* The product has not been tested.

*Sensitisation:* The product has not been tested.

*Repeated dose toxicity (subacute, subchronic, chronic):* The product has not been tested.  
(subakut, subchronisch, chronisch)

*Carcinogenicity:* The product has not been tested.

*In vivo mutagenicity:* The product has not been tested.

*Reproductive toxicity:* The product has not been tested.

## 12. Ecology information

### 12.1 Toxicity

#### *Acute (short-term) fish toxicity:*

*Effective dose:* LC50 >1000\* mg/l

*Exposure time:* 96 h

*Species:* Leuciscus idus (golden orfe)

*Method:* OECD 203

#### *Acute (short-term) daphnia toxicity*

*Effective dose:* EC50 >1000\* mg/l

*Exposure time:* 48 h

*Species:* Daphnia magna (Big water flea)

*Method:* OECD 202

#### *Acute (short-term) algae toxicity*

*Effective dose:* EC50 >100 < 1000\* mg/l

*Exposure time:* 72 h

*Species:* Scenedesmus subspicatus

*Method:* OECD 201

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## Effects in sewage plants

Method: Respiratory inhibition of municipal activated sludge  
5000\* mg/L Concentration: 100% Dilution : > 200

Technically correct releases of minimal concentrations to adapted biological sewage plants, will not disturb the bio-degradability 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 composition.

## 12.2 Persistence and degradability

### Bio-degradation

Readily bio-degradable (according to OECD criteria)

Degradation rate (%): > 70%\*

Duration (d): 28

Analytical method: BOB (% of COB)

Method: OECD 302B/ ISO 9888/ EEC 92/69/V, C.9

type: aerobic

### Chemical oxygen demand (COD)

< 500000\* mg\*O<sub>2</sub>/L Concentration: 100% Method DIN EN 38409-H41-1

### Biochemical oxygen demand (BOD):

< 400000\* mg\*O<sub>2</sub>/L Concentration: 100% Method DIN EN 1899-1 Test duration: 5d

## 12.3 Bio-accumulative potential

1,2-ETHANDIOL: Kein No indication of bio-accumulation potential

2-(2-BUTOXYETHOXY)ETHANOL: No indication of bio-accumulation potential.

CALCIUMCHLORIDE: No indication of bio-accumulation potential.

## 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

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.

CALCIUMCHLORIDE: This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

## 12.6 Other adverse effects

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*The product contains non-biodegradable fluorosurfactants*

## 13. Disposal considerations

### 13.1 Waste treatment methods

Waste disposal according to EC directives 75/442/EEC and 91/689/EEC in the corresponding versions, covering waste and dangerous waste. Dispose of waste according to applicable legislation.

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

#### Waste code product

07	WASTES FROM ORGANIC CHEMICAL PROCESSES
0707	wastes from the MFSU of fine chemicals and chemical products not otherwise specified
070704*	other organic solvents, washing liquids and mother liquors

#### 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.

### 13.2 Packagings which is not cleaned:

Recommendation: Disposal in accordance with the regulatory requirements.

## 14. Transport information

### 14.1 Transport

The F-Exx® 8.o C is not subject to the regulations for dangerous goods and not subject to the UN 1950.

Customs tariff number: 84241000

### 14.2 Environmental hazards

none

### 14.3 Special precautions for user

none

## 15. Regulatory information

15.1 *There are no chemical safety assessments available to us.*



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## 15.2 Labelling according to Ordinance on Hazardous Substances/EC (Directive 1999/45/EC):

- Hazard symbols: None
- Hazard-determining component for labelling: None
- R-phrases: None
- S-phrases: 24/25 Avoid contact with eyes and skin

## 15.3 National German regulations:

15.3.1 Special provisions of the Ordinance on Hazardous Substances: None

15.3.2 WHG: Water Hazard Class: slightly harmful to water (WHC 1)

15.3.3 Hazardous Incidence Ordinance: n.a.

15.3.4 VCI storage class: 12

## 15.4 EU legislation

15.4.1 Regulation (EC) No. 304/2003 of the European parliament and of the council concerning the export and import of dangerous chemicals

not applicable.

15.4.2 Regulation (EC) No. 648/2004 (Detergents regulation)

The surfactants contained in this preparation comply with the bio-degradability criteria as laid down in Regulation (EC) No.648/2004 on detergents.

15.4.3 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. 5

15.4.4 Regulation (EC) No. 842/2006 on certain fluorinated greenhouse gases.

not applicable

15.5 Other regulations, restrictions and bans: None

## 16. Further information

### Text of the R-phrases from Chapter 3:

R 22 Harmful if swallowed.

R 36/38 Irritating to eyes and skin

### Text of the H-phrases from Chapter 3:

H302: deleterious if swallowed.

H319: Causes severe eye irritation

### List of abbreviations:

AVV: European Waste List Directive

AGW (DE): Occupational exposure limit

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COD: Chemical Oxygen Demand

CAS No: Number of the Chemical Abstract System

BOD: Biological Oxygen Demand

LC50: Lethal dose for 50% of the test animals

Merck: Up-to-date material safety data sheet by Merck, Darmstadt

OECD: Organization for Economic Cooperation and Development

PBT: persistent, bio-accumulative and toxic contaminants

REACH: Registration, Evaluation, Authorisation of Chemicals

RTECS: Register of Toxic Effects of Chemical Substances

VAWS: Anlagenverordnung wassergefährdende Stoffe

VwVwS: Verwaltungsvorschrift wassergefährdender Stoffe (Administrative regulation on substances hazardous to water)

VCI: Verband der Chemischen Industrie e.V.

WGK: Wassergefährdungsklasse (water hazard class)

The general precautions for hazardous substances are to be complied with.

The information is based on the current state of our knowledge and intended to describe the product with regard to the safety precautions to be taken. It does not constitute a warranty of any specific properties of the product described. In case of unforeseen effects or properties of the product, the material safety data sheet is not intended as a substitute for the consultation of trained professionals.