

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 24.09.2019

Version number 2

Revision: 24.09.2019

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

- **1.1 Product identifier**
- **Trade name: Gefäßfüller unbrennbar I**
- **UFI:** 1F60-40J3-X00T-FM0C
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Anticorrosion additive
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Fermit GmbH
Zur Heide 4,
D- 53560 Vettelschoß
www.fermit.de
- **Informing department:**
Tel.: +49 (0) 2645-2207
Fax: +49 (0) 2645-3113
Email: info@fermit.de
- **1.4 Emergency telephone number:** Tel.: +49 (0) 2645-2207

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS08 health hazard

STOT RE 2 H373 May cause damage to the kidneys through prolonged or repeated exposure.
Route of exposure: Oral.

Aerosol 3 H229 Pressurised container: May burst if heated.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS08

- **Signal word** Warning
- **Hazard-determining components of labelling:**
ethane-1,2-diol
- **Hazard statements**
H229 Pressurised container: May burst if heated.
H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.
- **Precautionary statements**
P102 Keep out of reach of children.
P260 Do not breathe mist/vapours/spray.
P314 Get medical advice/attention if you feel unwell.

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 24.09.2019

Version number 2

Revision: 24.09.2019

Trade name: Gefäßfüller unbrennbar I

(Contd. from page 1)

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Information pertaining to particular dangers for man and environment**

Contains a fluorinated hydrocarbon which is subject to EU regulation 517/2014 on fluorinated greenhouse gases.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**

- **Description:** Mixture consisting of the following components.

- **Dangerous components:**

CAS: 29118-24-9	trans-1,3,3,3-tetrafluoroprop-1-ene ⚠ Press. Gas (Liq.), H280	50 - 100%
CAS: 107-21-1 EINECS: 203-473-3 Reg.nr.: 01-2119456816-28-X	ethane-1,2-diol ⚠ STOT RE 2, H373; ⚠ Acute Tox. 4, H302	10 - 25%

- **Additional information** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**

- **After inhalation**

Supply fresh air.

In case of persistent symptoms consult doctor.

- **After skin contact**

Wash with water and soap.

In cases of freeze burns, rinse with plenty of water. Do not remove clothing.

- **After eye contact**

Rinse opened eye for several minutes under running water.

In case of permanent aches and pains please go and see the doctor.

- **After swallowing** Swallowing is not considered to be a possible way of exposure.

- **4.2 Most important symptoms and effects, both acute and delayed**

No further relevant information available.

- **4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**

- **Suitable extinguishing agents**

CO2, extinguishing powder or water jet. Fight larger fire with alcohol-resistant foam.

- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.

- **5.2 Special hazards arising from the substance or mixture**

During incomplete combustion carbon monoxide can be formed.

Pressure build-up and risk of bursting when heated.

- **5.3 Advice for firefighters**

- **Protective equipment:**

Do not inhale explosion gases or combustion gases.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 24.09.2019

Version number 2

Revision: 24.09.2019

Trade name: Gefäßfüller unbrennbar I

(Contd. from page 2)

In case of fire wear breathing equipment being independent of ambient air and suit provided full protection against chemicals.

· **Additional information**

Cool endangered containers with water spray.
Remove goods in stock from incendiary zone, if possible.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

· **6.2 Environmental precautions:**

Do not allow to enter drainage system, surface or ground water.
Damp down gases/fumes/haze with water spray jet.

· **6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.
Absorb liquid components with liquid-binding material.
Dispose of the material collected according to regulations.

· **6.4 Reference to other sections**

See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.
Keep away from heat and direct sunlight.
Keep empty containers away from heat and ignition sources.

· **Information about protection against explosions and fires:**

Beware: Container is pressurized. Keep away from direct sun exposure and temperatures over 50°C. Do not open by force or throw into fire even after use.

· **7.2 Conditions for safe storage, including any incompatibilities**

· **Storage**

· **Requirements to be met by storerooms and containers:**

Observe official regulations on storing packagings with pressurised containers.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:**

Store in cool, dry conditions in well sealed containers.
Protect from heat and direct sunlight.

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**

· **Components with limit values that require monitoring at the workplace:**

WEL: workplace exposure limit

OEL: Occupational Exposure Limit

IOELV: Indicative Occupational Exposure Limit Values, workplace threshold value of the European Union

107-21-1 ethane-1,2-diol

WEL (Great Britain)

Short-term value: 104** mg/m³, 40** ppm

Long-term value: 10* 52** mg/m³, 20** ppm

Sk *particulate **vapour

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 24.09.2019

Version number 2

Revision: 24.09.2019

Trade name: Gefäßfüller unbrennbar I

(Contd. from page 3)

IOELV (European Union)	Short-term value: 104 mg/m ³ , 40 ppm Long-term value: 52 mg/m ³ , 20 ppm Skin
------------------------	--

- **DNELs**

107-21-1 ethane-1,2-diol

Dermal	DNEL (worker, long-term, systemic)	106 mg/kg bw/day (human)
	DNEL (consumer, long-term, systemic)	53 mg/kg bw/day (human)
Inhalative	DNEL (worker, short-term, local)	35 mg/m ³ (human)
	DNEL (consumer, short-term, local)	7 mg/m ³ (human)

- **PNECs**

107-21-1 ethane-1,2-diol

PNEC aqua (freshwater)	10 mg/L (.)
PNEC aqua (marine water)	1 mg/L (.)
PNEC STP	199.5 mg/L (.)
PNEC soil	1.53 mg/kg soil dw (.)
PNEC sediment (freshwater)	20.9 mg/kg sedim. dw (.)
PNEC aqua (intermittent releases)	10 mg/L (.)

- **Additional information:** The lists that were valid during the compilation were used as basis.

- **8.2 Exposure controls**

- **Personal protective equipment**

- **General protective and hygienic measures**

Do not eat, drink or smoke while working.

Wash hands during breaks and at the end of the work.

Do not inhale gases / fumes / aerosols.

- **Breathing equipment:** Not required.

- **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

Fluorocarbon rubber (Viton)

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

In case of a layer thickness of 0.7 mm the penetration time is longer than 480 minutes.

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **As protection from splashes gloves made of the following materials are suitable:**

Nitrile rubber, NBR

- **Eye protection:**



Tightly sealed safety glasses.

(Contd. on page 5)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 24.09.2019

Version number 2

Revision: 24.09.2019

Trade name: Gefäßfüller unbrennbar I

(Contd. from page 4)

- **Body protection:**
Wear antistatic clothing made from natural fibres (cotton) or heat-resistant synthetic fibres.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Aerosol
Colour:	colourless to light yellow
Odour:	Characteristic
Odour threshold:	Not determined.

- **Change in condition**

Initial boiling point and boiling range: Not applicable, as aerosol

- **Flash point:** Not applicable, as aerosol

- **Explosive properties:** Product is not explosive.

- **Density at 20 °C** ca. 1 g/cm³

- **Solubility in / Miscibility with**

Water: Fully miscible

- **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.3 Possibility of hazardous reactions**
Danger of containers bursting because of high vapour pressure
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:**
None in case of intended use and storage in compliance with instructions.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**

- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values that are relevant for classification:**

107-21-1 ethane-1,2-diol

Oral	LD50	7,712 mg/kg (rat)
Dermal	LD50	> 3,500 mg/kg (mouse)
Inhalative	LC50	> 2.5 mg/l/6h (rat)

- **Primary irritant effect:**

- **Skin corrosion/irritation** Slightly irritant

- **Serious eye damage/irritation** Based on available data, the classification criteria are not met.

- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

- **Repeated dose toxicity**

107-21-1 ethane-1,2-diol

Oral	NOAEL (90d)	150 mg/kg bw/day (rat) (OECD 408)
------	-------------	-----------------------------------

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 24.09.2019

Version number 2

Revision: 24.09.2019

Trade name: Gefäßfüller unbrennbar I

(Contd. from page 5)

- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure**
May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

107-21-1 ethane-1,2-diol

EC50 (static)	> 10,000 mg/l/16h (Pseudomonas putida) (DIN 38412, part 8)
EC50 (static)	> 100 mg/l/48h (Daphnia magna) (OECD 202)
EC50	6,500 - 13,000 mg/l/96h (Pseudokirchneriella subcapitata) (EPA 600/9-78-018, 1978)
LC50 (static)	72,860 mg/l/96h (Pimephales promelas)

- **12.2 Persistence and degradability** No further relevant information available.
- **Other information:** There are no data available about the preparation.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** GWP: 7

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

Proceed according to local, official regulations.
The waste code numbers mentioned are recommendations based on the probable use of the product.

· European waste catalogue

07 00 00	WASTES FROM ORGANIC CHEMICAL PROCESSES
07 07 00	wastes from the MFSU of fine chemicals and chemical products not otherwise specified
07 07 99	wastes not otherwise specified
HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP6	Acute Toxicity

· Uncleaned packagings:

· Recommendation:

After use the packaging shall be discharged completely.
Dispose of packaging according to regulations on the disposal of packagings.

GB

(Contd. on page 7)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 24.09.2019



Version number 2

Revision: 24.09.2019

Trade name: Gefäßfüller unbrennbar I

(Contd. from page 6)

SECTION 14: Transport information

<ul style="list-style-type: none"> · 14.1 UN-Number · ADR/ADN, IMDG, IATA 	UN1950
<ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR/ADN · IMDG · IATA 	1950 AEROSOLS AEROSOLS AEROSOLS, non-flammable
<ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR/ADN 	
	
<ul style="list-style-type: none"> · Class · Label 	2.5A Gases. 2.2
<ul style="list-style-type: none"> · IMDG, IATA 	
	
<ul style="list-style-type: none"> · Class · Label 	2.2 2.2
<ul style="list-style-type: none"> · 14.4 Packing group · ADR/ADN, IMDG, IATA 	Void
<ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: 	No
<ul style="list-style-type: none"> · 14.6 Special precautions for user · Kemler Number: · EMS Number: · Stowage Code · Segregation Code 	Warning: Gases. - F-D,S-U SW1 Protected from sources of heat. SW2 Clear of living quarters. SG69 For AEROSOLS with a maximum capacity of 1 litre: Segregation as for class 9. Stow "separated from" class 1 except for division 1.4. For AEROSOLS with a capacity above 1 litre: Segregation as for the appropriate subdivision of class 2. For WASTE AEROSOLS: Segregation as for the appropriate subdivision of class 2.
<ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code 	Not applicable.
<ul style="list-style-type: none"> · Transport/Additional information: 	
<ul style="list-style-type: none"> · ADR/ADN · Limited quantities (LQ) · Excepted quantities (EQ) · Transport category · Tunnel restriction code 	1L Code: E0 Not permitted as Excepted Quantity 3 E

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 24.09.2019

Version number 2

Revision: 24.09.2019

Trade name: Gefäßfüller unbrennbar I

(Contd. from page 7)

- | | |
|--|--|
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <p style="margin: 0;">1L</p> <p style="margin: 0;">Code: E0</p> <p style="margin: 0;">Not permitted as Excepted Quantity</p> |
| <ul style="list-style-type: none"> · UN "Model Regulation": | <p style="margin: 0;">UN 1950 AEROSOLS, 2.2</p> |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Petroleum products and alternative fuels
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **National regulations**
- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Substances of very high concern (SVHC) according to REACH, Article 57**
- None of the ingredients is contained.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**
 H280 Contains gas under pressure; may explode if heated.
 H302 Harmful if swallowed.
 H373 May cause damage to the kidneys through prolonged or repeated exposure. Route of exposure: Oral.
- **Department issuing data specification sheet:**
 This Material Safety Data Sheet has been drawn up in cooperation with:
 DEKRA Assurance Services GmbH, Hanomagstr. 12, D-30449 Hanover, Germany,
 phone: (+49) 511 42079 - 0, reach@dekra.com.
 © DEKRA Assurance Services GmbH. Changing this documents is subject to explicit acceptance by DEKRA Assurance Services GmbH.
- **Abbreviations and acronyms:**
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 DNEL: Derived No-Effect Level (REACH)
 PNEC: Predicted No-Effect Concentration (REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 SVHC: Substances of Very High Concern
 vPvB: very Persistent and very Bioaccumulative
 Aerosol 3: Aerosols – Category 3
 Press. Gas (Liq.): Gases under pressure – Liquefied gas
 Acute Tox. 4: Acute toxicity – Category 4
 STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
- *** Data compared to the previous version altered.**