

# SAERTEX® multiFlex System



Never miss a connection again – thanks to the first invertible GRP-Liner worldwide for the trenchless rehabilitation of house-connections.

**SAERTEX**  
multiCom®

## PROCESS

Safety and quality are, of course, the priorities when it comes to an on-site impregnation. We can guarantee this by connecting the SAERTEX® multiFlex GRP-House-Connection-Liner with the easy to process two-component EP resin SAERTEX® multiFlex EP 80.



Impregnated SAERTEX® multiFlex

The process is easy and fast: The two-component epoxy resin SAERTEX® multiFlex EP 80 is mixed at the job-site, introduced to the vacuumed GRP-House-Connection-Liner, and then evenly distributed by a calibrating-roll. The SAERTEX® multiFlex GRP-Liner impregnated with epoxy resin is turned inside out in the old pipe (inversion process) by air or water pressure so that the impregnated side is pressed onto the wall of the old pipe. The house connection is immediately ready for use once the impregnated GRP-Liner has cured.

## EXPANDED APPLICATIONS

The SAERTEX® multiFlex Cap-Liner offers an additional application of the system where a pre-installed end-cap allows an open-end installation with a closed-end. In addition to the optimal results, the application also delivers savings in time and materials that make it significantly more economical than conventional open-end installations.

## RESULTS

Our installers confirm that the SAERTEX® multiFlex System is also the right product for extraordinary conditions. Bendability, lateral expansion and wall thickness stability - even with change of dimensions - as well as high mechanical properties and short installation times - next to excellent installation results - speak in favour of the system.



Left: SAERTEX® multiFlex change of dimensions DN 150 – DN 200  
Right: SAERTEX® multiFlex double-45°-bend



## PROPERTIES

- DIBt-approval Z-42.3-518
- Invertible ECR-Glass-Liner (DN 100 to DN 300)
- Optimal wall thickness stability (including after expansion)
- Bendability 90°
- Reduced wrinkling in inner bend area
- High mechanical properties
- No longitudinal strain
- Maximum lateral strain 35% (change from DN 150 to DN 200 possible)
- High temperature resistance (steam curing possible)
- Open-End-Installation with closed-end optional possible - (SAERTEX® multiFlex CAP-Liner with a pre-installed stabilizing end-cap, patent no. 10 2010 002960, IPC F16L55/1645)

## SCOPE OF DELIVERY

Delivery of the SAERTEX® multiFlex System includes the GRP-House-Connection-Liner made of ECR-glassfibre-cord matched to your project as well as the bundle of SAERTEX® multiFlex EP 80 two-component epoxy resin for impregnating the SAERTEX® multiFlex on-site.



Top left: SAERTEX® multiFlex dry product  
Top right: SAERTEX® multiFlex EP 80 resin & hardener  
Below: SAERTEX® multiFlex CAP-Liner (optional) in ready-for-use length

## CONTACT

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# Safety Data Sheet

According to Regulation (EC) No. 1907/2006



Date issued: 04.09.2009

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**Issue: 001**

n.a. = non-applicable

dna = data not available

## SAERTEX<sup>®</sup> MULTICOM GMBH

### 1. Identification of the substance / preparation and company/undertaking

#### 1.1 Substance / preparation

Commercial product name SAERTEX-S-LINER, SAERTEX-M-LINER

Application Fibre glass liner, sewer pipe used for renovation of sewage system.

#### 1.2 Company/Undertaking

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### 2. Hazards identification

#### 2.1 Description of hazards

When properly used, no hazards exist.

Risk of dust explosion in machining operations without adequate ventilation or exhaust.

#### 2.2 Impact on human health

Excessive inhalation of dust can irritate the respiratory system. (For limits, see point 8.1).

May cause eye or skin irritation of sensitive persons.

#### 2.3 Impact on environment

When properly used, no hazards exist.

### 3. Composition/information on ingredients

Chemical Characterisation (mixture)

CAS Registry No.: no indication

Ingredients	EG-Nr.	CAS-Nr.	Reg. Nr.	Mass %	R-phrase	Symbol
Fibre glass scrim	266-046-0	65997-17-3	dna	app. 50	n.a.	n.a.
Polyester resin	dna	dna	dna	app. 50	n.a.	n.a.

#### 3.1 Hazardous constituents subject to the regulation 67/548/ECC

No hazardous substances.

#### 3.2 Substances for which there are Community workplace exposure limits, which are not already included in point 3.1(see also point 8)

None, if not listed in point 8 .

#### 3.3 Additional information

None

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## 4. First aid Measures

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- 4.1 General information** Sharp edges can cause injuries.
- 4.2 After inhalation** Supply fresh air. In case of persistent symptoms, consult a doctor.
- 4.3 After skin contact** Wash with plenty of water and soap. Rinse thoroughly. Seek medical advice in case of persistent irritation.
- 4.4 After eye contact** Keep eyelids open and rinse thoroughly with clean, fluent water for at least 15 minutes. In case of disorders and/or eye redness consult eye specialist.
- 4.5 After swallowing** Gently wipe or wash the mouth. Drink small portions of water. Do not instil anything through the mouth of unconscious person. call medical help if symptoms persist.
- 4.6 Information for the physician Treatment** None  
Symptomatic therapy.

## 5. Fire-fighting measures

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- 5.1 Suitable extinguishing media**  
Risk of fire by contact with oxidizing agents.  
Water,  
CO<sub>2</sub>,  
Foam,  
Dry powder.
- 5.2 Unsuitable extinguishing media**  
Water jet.
- 5.3 Special hazards caused by substance or preparation itself, its combustion product or released gases**  
Carbon oxides
- 5.4 Special protective equipment for fire fighting**  
Use protective clothing appropriate to surrounding fire. Fight incipient fire with extinguisher.  
Fire class A/B.  
Depending on smoke emission use self-contained breathing apparatus.  
In case of massive exposure to the substance: wear chemical protective suit.
- 5.5 Additional information**  
Fibre Glass liner is not flammable. The surface coating may catch fire by contact with oxidizing agents. It may produce dangerous decomposition products.

## 6. Accidental release measures

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- 6.1 Person-related precautionary measures**  
Sufficient ventilation should be provided. Avoid dust building, prohibit skin and eye contact.
- 6.2 Environmental-protection measures** (see point 13 also, disposal considerations)  
no special procedures are expected to be necessary.
- 6.3 Procedures for cleaning/absorption**  
collect mechanically and remove properly.  
Avoid dust formation and dust collection.  
Use industrial vacuum system.
- 6.4 Additional information**  
None

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## 7. Handling and storage (National regulations see point 15. und 16.)

Fibre glass liner is not classified as a dangerous substance or dangerous goods. Risk may occur by dust formatting activities

### 7.1 Handling

#### **Advice on safe handling**

See point 8 also.  
 Keep away from food.  
 Keep away from ignition source.  
 Cautious against electrostatic charging.  
 Avoid inhalation of dust.

#### **Fire control and explosion prevention**

The product is not explosive, though dust deposits above 1 mm can lead to explosions.  
 If possible remove fibres from danger zone.  
 Eliminate ignition sources.  
 Take care of back fire.

#### **Additional requirements for technical installations**

Low-dust processing procedures and machines should be used.  
 Cutting tools (e. g. cutter shafts) should be maintained and sharpened adequately.  
 Dust should be vacuumed.

### 7.2 Storage

#### **Requirements for storage and vessels**

Store below 18 °C in closed originally package.  
 Keep away from heat and direct solar radiation.  
 Keep away from oxidizing agents.  
 Because of dust deposits appropriate ground ventilation is necessary.

#### **Advice on storage compatibility**

Not needed

#### **Further information on storage condition**

Fibre glass liner should not be stored with oxidizing materials with which dangerous chemical reactions are possible.

**Storage class** n. a.

### 7.3 Special usage

Sewer pipe for renovation of sewage system.

## 8. Exposure controls/personal protection

### 8.1 Exposure limit values

250000 F / m<sup>3</sup>, TRK (Technische Richtkonzentration, technical indicative concentration) value,  
 (Berufsgenossenschaftlichen Informationen für Sicherheit und Gesundheit bei der Arbeit, BGI 729,  
 professional association informations for security and health at work)  
 6 mg / m<sup>3</sup> (Alveolar fraction) BGI 729

### 8.2 Limitation and control of occupational exposure

#### **Personal protective equipment**

##### **Respiratory protection**

Effective dust mask. Due to dust formation a particle filter mask is necessary. FFP2.

##### **Hand protection**

Protective gloves against mechanical risks, cut protection class 2 recommended.

##### **Eye protection**

Tightly sealed goggles with side protection.

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<b>Body protection</b>	Wear protective work clothing and safety shoes if contact is possible. According to grade of exposure wear long dense apron, boots and dust-proof protective clothing.
<b>Skin protection</b>	Use skin care cream.
<b>General measures</b>	Do not eat, drink, smoke or sniff while working. Always wash hands before breaks and at the end of work. Clean machines, working area and clothing regularly.

## 9. Physical and chemical properties

### 9.1 General information

**Viscosity:** Solid / Fibres      **Colour:** Yellow-green      **Odour:** Specifically, characteristic

### 9.2 Important information on health- and environmental safety

Melting temperature : n. a.  
 Boiling point : n. a.  
 Solidification point: n. a.  
 Flash point: n. a.  
 Density: n. a.  
 pH-value: n. a.  
 Ignition temperature: n. a.  
 Explosive limits: n. a.

**Explosion properties** Risk of explosion in contact with:  
 Oxides / dust, salt oxides / dust, peroxides / dust, oxidation agents.

9.3 **Additional information** None

## 10. Stability and reactivity

### 10.1 Conditions/substances to be avoided

Avoid of heat, flame and sparks. This substance may react dangerously with acids, base, heavy metals and reduction agents.

### 10.2 Hazardous decomposition products

Irritant gases may be produced by thermal decomposition.

### 10.3 Additional information

None

## 11. Toxicological information

### 11.1 Toxicological tests

#### 11.1.1 Acute toxicity/specific result of animal experiments

Oral: n.a.  
 Dermal: n.a.  
 By inhalation: n.a.

#### 11.1.2 Irritancy and corrosiveness/sensitising effect

Skin irritation	Possibility of irritation.
Skin sensitisation	None.
Eye irritation	May cause eye irritation.
irritating of respiratory systems	May cause irritation of respiratory system. Swallow irritates the upper respiratory system

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**11.1.3 Sub acute, chronic toxicity, carcinogenicity, mutagenicity, and toxicity for reproduction**

carcinogenicity	None
Mutagenicity	None
Toxicity for reproduction	None
Chronic toxicity	None

11.1.4 **Additional information** None

11.2 **Practical experience** None

11.2.1 **Relevant observations for classification** None

11.2.2 **Other observations** None

11.3 **General information** None

**12. Ecological information****12.1 Ecological toxicity****aquatic toxicity:**

96 h LC50 (fish)	None
48 h EC50 (daphnia)	None
72 h IC50 (alga)	None

**Waste water treatment plant:** None

12.2 **Mobility** n. a.

12.3 **Persistence and degradability** n. a.

12.4 **Bio-accumulative potential** n. a.

**12.5 Other adverse effects**

ozone depletion potential	n. a.
photochemical ozone creation potential	n. a.
AOX	n. a.

**12.6 Additional information**

COD-value	n. a.
BOD-value	n. a.

**12.7 Water endangerment category (Germany)**

See point 15 also  
 Not water hazardous

12.8 **Result of PBT assessment** n. a.

**13. Disposal considerations****13.1 Disposal according to national regulations**

Advice:	None.
Waste category:	Construction and demolition wastes (including excavated soil from contaminated sites).
Waste designation:	wood, glass and plastic.
Waste-code:	17 02 03 plastic.
Disposal operations:	see recovery operations.
Recovery operations:	R3, R5.

Disposal operations and recovery procedures have to be decided due to pollution levels in accordance with recycling factory and applicable rules.

**13.2 Unclean package**

Advice: n. a.

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## 14. Transport information

### 14.1 Road and rail ADR / RID / GGVSE (German regulation)

UN number:	Not classified as hazardous for transport
ADR/RID class:	Not classified as hazardous for transport
Warning sign:	Not classified as hazardous for transport
Hazard number:	Not classified as hazardous for transport
Hazard label:	Not classified as hazardous for transport
Packing group:	Not classified as hazardous for transport

### 14.2 Marine transport IMDG / GGVSee.

UN number:	Not classified as hazardous for transport
IMDG class:	Not classified as hazardous for transport
Marine pollutant:	Not classified as hazardous for transport
IMDG packing group:	Not classified as hazardous for transport
EmS:	Not classified as hazardous for transport
Proper shipping name:	Not classified as hazardous for transport

### 14.3 Air transport ICAO / IATA

UN/ID No.:	Not classified as hazardous for transport
ICAO/IATA-Klasse:	Not classified as hazardous for transport
ICAO packing group:	Not classified as hazardous for transport
Proper name:	Not classified as hazardous for transport

## 15. Regulatory information

### 15.1 Labelling according to 67/548/ECC and 1999/45/EC

No material safety evaluation for the material was done by the manufacturer.  
 No hazardous substance according to RL67/548/EWG u. 1999/45/EG  
**Special labelling:** None

### 15.2 National regulations (Germany)

Advice on employment restriction: GefStoffV, JugendASchG, MutterschutzG.  
 Water hazard class: Not water hazardous (VwVws)

### 15.2 Other regulations, restrictions and requirements:

Realize Workplace values, Information about hazards can be obtained from the "Technischen Regeln für Gefahrstoffe" (TRGS 900 ff., German technical rules for hazardous material), Technischen Regeln für Betriebssicherheit (TRBS 2152, technical rules for operational security) and Berufsgenossenschaftlichen Informationen für Sicherheit und Gesundheit bei der Arbeit (BGI 729, professional association informations for security and health at work). Note water right regulations (e. g. VAWs, WHG). German regulations

### 15.3 Chemical safety assessment

No chemical safety assessments

## 16. Other information

### 16.1 wording in full of S-phrases

S 13:	Keep away from food, drink and animal feeding stuffs
S 17:	Keep away from combustible material.
S 18:	Handle and open container with care.
S 20/21:	When using do not eat, drink or smoke.
S 24/25:	Avoid contact with skin and eyes.
S 26:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 28:	After contact with skin, wash immediately with plenty of water and soap.
S 36:	Wear suitable protective clothing.
S 37/39:	Wear suitable gloves and eye/face protection.

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- S 45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).  
S 61: Avoid release to the environment. Refer to special instructions/safety data sheets.  
S 64: If swallowed, rinse mouth with water (*only if the person is conscious*).

#### 16.2 Training Information

People working with fibre glass liner or coming into contact with it have to be trained in view of hazards for man and environment. They have to be instructed according to national regulations, e. g. "Arbeitsschutzgesetz" (German Occupational Safety and Health Regulations), "Gefahrstoffverordnung" (German Ordinance on Hazardous Substances), technical rules for operational security.

#### 16.3 responsible division:

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#### Issue: 0001

This data sheet provides you with reference points for the safe handling, storage, transport and disposal. The information is based on the current level of knowledge and assure no certain characteristics. Laws and regulations for handling, storage, transport and disposal are observed at the consignee's own risk.