

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

Printing date 22.04.2014

Version number 4

Revision: 22.04.2014

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

### · 1.1 Product identifier

· Trade name: illbruck FM110

· MSDS code: A-I-FM110

### · 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 Sealant

### · 1.3 Details of the supplier of the safety data sheet

#### · Manufacturer/Supplier:

tremco illbruck Productie B.V.

Vlietskade 1032, 4241 WC Arkel

T: +31 (0) 183568000, F: +31 (0) 183568100

msds@tremco-illbruck.com

#### · Further information obtainable from:

tremco illbruck Ltd

Coupland Road, Hindley Green, Wigan, WN2 4HT

T: +44 (0) 1942251400, F: +44 (0) 1942251410

www.tremco-illbruck.co.uk, uk.info@tremco-illbruck.com

### · 1.4 Emergency telephone number:

During office hours tel.: +44 (0) 1942251400. At all other times please contact your national poisoning centre.

## SECTION 2: Hazards identification

### · 2.1 Classification of the substance or mixture

#### · Classification according to Regulation (EC) No 1272/2008

Flam. Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carc. 2 H351 Suspected of causing cancer.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

#### · Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xn; Harmful

R20-40-48/20: Harmful by inhalation. Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Xn; Sensitising

R42/43: May cause sensitisation by inhalation and skin contact.

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Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

F+; Extremely flammable

R12: Extremely flammable.

- **Information concerning particular hazards for human and environment:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

Warning! Pressurized container.

- **Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

- **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**



GHS02 GHS07 GHS08

- **Signal word** Danger

- **Contains:**

diphenylmethanediisocyanate, isomers and homologues

- **Hazard statements**

H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.

H332 Harmful if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P251 Do not pierce or burn, even after use.

P285 In case of inadequate ventilation wear respiratory protection.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

- **Supplemental information:**

Contains isocyanates. May produce an allergic reaction.

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

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· **vPvB:** Not applicable.**SECTION 3: Composition/information on ingredients**· **3.2 Mixtures**· **Description:** Active substance with propellant· **Dangerous components:**

CAS: 9016-87-9 EINECS: 202-966-0	diphenylmethanediisocyanate, isomers and homologues Xn R20-40-48/20; Xn R42/43; Xi R36/37/38 Carc. Cat. 3 ----- Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	30- <50%
EC number: 911-815-4 Reg.nr.: 01-2119486772-26-xxxx	tris(2-chloro-1-methylethyl)phosphate Xn R22 ----- Acute Tox. 4, H302	10- <20%
CAS: 115-10-6 EINECS: 204-065-8 Reg.nr.: 01-2119472128-37-xxxx	dimethyl ether F+ R12 ----- Flam. Gas 1, H220; Press. Gas, H280	5- <10%
CAS: 75-28-5 EINECS: 200-857-2 Reg.nr.: 01-2119485395-27-xxxx	isobutane F+ R12 ----- Flam. Gas 1, H220; Press. Gas, H280	5- <10%
CAS: 74-98-6 EINECS: 200-827-9 Reg.nr.: 01-2119486944-21-xxxx	propane F+ R12 ----- Flam. Gas 1, H220; Press. Gas, H280	1- <5%
CAS: 8001-79-4 EINECS: 232-293-8	Castor oil Xi R38 ----- Skin Irrit. 2, H315; Eye Irrit. 2, H319	1- <5%

· **Additional information:**

While curing the following substances are formed and released by a reaction with atmospheric humidity:

Carbon dioxide

For the wording of the listed risk phrases refer to section 16.

**SECTION 4: First aid measures**· **4.1 Description of first aid measures**· **General information:** Take affected persons out of danger area and lay down.· **After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If symptoms persist consult doctor.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** Do not induce vomiting; call for medical help immediately.

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- **4.2 Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Information for doctor:** No further relevant information available.
- **Hazards** 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:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
Carbon monoxide (CO)  
Carbon dioxide  
Nitrogen oxides (NO<sub>x</sub>)  
Under certain fire conditions, traces of other toxic gases cannot be excluded, e.g.:  
Hydrogen cyanide (HCN)
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear self-contained respiratory protective device.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Not required.  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents
- **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 disposal information.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.
- **Information about fire - and explosion protection:**  
Do not spray onto a naked flame or any incandescent material.  
Protect against electrostatic charges.  
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C, i.e. electric lights. Do not pierce or burn, even after use.

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- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Observe official regulations on storing packagings with pressurized containers.
- **Information about storage in one common storage facility:** Store away from water.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Do not seal receptacle gas tight.  
Store in cool, dry conditions in well sealed receptacles.  
Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

· <b>Ingredients with limit values that require monitoring at the workplace:</b>	
<b>9016-87-9 diphenylmethanediisocyanate, isomers and homologues</b>	
WEL	Short-term value: 0.07 mg/m <sup>3</sup> Long-term value: 0.02 mg/m <sup>3</sup> Sen; as -NCO
<b>115-10-6 dimethyl ether</b>	
WEL	Short-term value: 958 mg/m <sup>3</sup> , 500 ppm Long-term value: 766 mg/m <sup>3</sup> , 400 ppm

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

- **8.2 Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.  
Do not inhale gases / fumes / aerosols.

- **Respiratory protection:**

This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

- **Protection of hands:**



Protective gloves

- **Material of gloves**

Nitrile rubber, NBR  
Recommended thickness of the material:  $\geq 0.4$  mm  
Butyl rubber, BR  
Recommended thickness of the material:  $\geq 0.7$  mm

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- **Penetration time of glove material**  
For the mixture of chemicals mentioned below the penetration time has to be at least 480 minutes (Permeation according to EN 374 Part 3: Level 6).
- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

## SECTION 9: Physical and chemical properties

### · 9.1 Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

Form: Aerosol  
Colour: According to product specification

- **Odour:** Characteristic
- **Odour threshold:** Not determined.

- **pH-value:** Not determined.
- **Melting point/Melting range:** Not applicable, as aerosol.
- **Boiling point/Boiling range:** Not applicable, as aerosol.

- **Flash point:** -97 °C

- **Flammability (solid, gaseous):** Not applicable.

#### · Ignition temperature:

**Decomposition temperature:** Not determined.

- **Self-igniting:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

#### · Explosion limits:

Lower: 3.0 Vol %  
Upper: 18.6 Vol %

- **Vapour pressure at 20 °C:** 5200 hPa

- **Density at 20 °C:** 1.03 g/cm<sup>3</sup>
- **Relative density** Not determined.
- **Vapour density** Not determined.
- **Evaporation rate** Not applicable.

#### · Solubility in / Miscibility with water:

Not miscible or difficult to mix.

- **Partition coefficient (n-octanol/water):** Not determined.

#### · Viscosity:

Dynamic: Not determined.

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<b>Kinematic:</b>	Not determined.
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<b>· Solvent content:</b>	
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<b>VOC (EU)</b>	179.4 g/l
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<b>VOC (EC)</b>	17.40 %
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<b>· 9.2 Other information</b>	No further relevant information available.
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### SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**

- **Acute toxicity:**

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

<b>9016-87-9 diphenylmethanediisocyanate, isomers and homologues</b>		
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Oral	LD50	> 10000 mg/kg (rat)
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Dermal	LD50	> 10000 mg/kg (rabbit)
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Inhalative	LC50/4 h	0.493 mg/L (rat)
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<b>tris(2-chloro-1-methylethyl)phosphate</b>		
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Oral	LD50	632 mg/kg (rat)
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Inhalative	LC50/4 h	7 mg/L mg/L (rat)
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- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.

- **on the eye:** Irritating effect.

- **Sensitization:**

Sensitization possible through inhalation.

Sensitization possible through skin contact.

- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Harmful

Irritant

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

Carc. 2

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## SECTION 12: Ecological information

### · 12.1 Toxicity

#### · Aquatic toxicity:

#### **9016-87-9 diphenylmethanediisocyanate, isomers and homologues**

EC50/24 h	> 1000 mg/L (daphnia magna)
LC0/96 h	> 1000 mg/L (brachydanio rerio)
NOEC/21 d	> 10 mg/L (daphnia magna)

#### **tris(2-chloro-1-methylethyl)phosphate**

EC50/48 h	131 mg/L (daphnia magna)
LC50/96 h	51 mg/L (pimephales promelas)

· **12.2 Persistence and degradability** No further relevant information available.

· **Other information:** The product is difficultly biodegradable.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

#### · Ecotoxicological effects:

#### · Other information:

This product contains no substances in Annex I to Directive EC 1005/2009 concerning ozone depleting substances

#### · 12.5 Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Other adverse effects** No further relevant information available.

## SECTION 13: Disposal considerations

### · 13.1 Waste treatment methods

#### · Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

#### · European waste catalogue

16 05 05	gases in pressure containers other than those mentioned in 16 05 04
15 01 04	metallic packaging

#### · Uncleaned packaging:

· **Recommendation:** Disposal must be made according to official regulations.

## SECTION 14: Transport information

### · 14.1 UN-Number

· **ADR, IMDG, IATA** UN1950

### · 14.2 UN proper shipping name

· **ADR** 1950 AEROSOLS  
 · **IMDG** AEROSOLS  
 · **IATA** AEROSOLS, flammable

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- **14.3 Transport hazard class(es)**

- **ADR**



- **Class** 2 5F Gases.
- **Label** 2.1

- **IMDG, IATA**



- **Class** 2.1
- **Label** 2.1

- **14.4 Packing group**

- **ADR, IMDG, IATA** Void

- **14.5 Environmental hazards:**

- **Marine pollutant:** No

- **14.6 Special precautions for user**

- **Warning:** Gases.
- **Danger code (Kemler):** -
- **EMS Number:** F-D,S-U

- **14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

- **Transport/Additional information:**

- **ADR**

- **Limited quantities (LQ)** 1L
- **Transport category** 2
- **Tunnel restriction code** D
- **Remarks:**
  - Special provisions: 190, 327, 344, 625 (3.3)
  - Special provisions for carriage: V14 (7.2.4); CV9, CV12 (7.5.11); S2 (8.5)

- **IMDG**

- **Remarks:**
  - Special provisions: 63, 190, 277, 327, 344, 959 (3.3)
  - Stowage and segregation: Protected from sources of heat. For 1950 AEROSOLS with a maximum capacity of 1 litre: Category A. Segregation as for class 9 but "Separated from" class 1 except division 1.4.

- **IATA**

- **Remarks:**
  - Special provisions: A145, A167, A802 (4.4)

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· UN "Model Regulation":	UN1950, AEROSOLS, 2.1
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### SECTION 15: Regulatory information

#### · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Directive 1999/45/EC.

"CLP" Regulation (EC) No 1272/2008 (OJ L 353, 31.12.2008, p.1).

"CHIP" SI 2009 No.716.

"REACH" Regulation (EC) No 1907/2006 (OJ L 396, 30.12.2006, p.1, with subsequent amendments).

#### · National regulations:

#### · Information about limitation of use:

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

#### · Other regulations, limitations and prohibitive regulations

- **Substances of very high concern (SVHC) according to REACH, Article 57** Not applicable.

- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

#### · Relevant phrases

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

H373 May cause damage to organs through prolonged or repeated exposure.

R12 Extremely flammable.

R20 Harmful by inhalation.

R22 Harmful if swallowed.

R36/37/38 Irritating to eyes, respiratory system and skin.

R38 Irritating to skin.

R40 Limited evidence of a carcinogenic effect.

R42/43 May cause sensitisation by inhalation and skin contact.

R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

#### · 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 Harmonized System of Classification and Labelling of Chemicals

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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)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent

· **\* Data compared to the previous version altered.**

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