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

1.1 Product identifier

- Trade name: illbruck FM510
- MSDS code: A-I-FM510

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

- Acute Tox. 4 H332 Harmful if inhaled.
- Skin Irrit. 2 H315 Causes skin irritation.
- Eye Irrit. 2 H319 Causes serious eye irritation.
- Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin Sens. 1 H317 May cause an allergic skin reaction.
- Carc. 2 H351 Suspected of causing cancer.
- STOT SE 3 H335 May cause respiratory irritation.
- STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.

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

Trade name: illbruck FM510

- **Hazard pictograms**
  - GHS02
  - GHS07
  - GHS08

- **Signal word** Danger

- **Contains:**
  - diphenylmethanediisocyanate, isomers and homologues

- **Hazard statements**
  - 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:**
  - EUH204 Contains isocyanates. May produce an allergic reaction.

- **2.3 Other hazards**
  - **Results of PBT and vPvB assessment**
    - **PBT:** Not applicable.
    - **vPvB:** Not applicable.

### SECTION 3: Composition/information on ingredients

- **3.2 Mixtures**
  - **Description:** Active substance with propellant

| CAS: 9016-87-9 | diphenylmethanediisocyanate, isomers and homologues | 30- <50% |
| EINECS: 202-966-0 | | |
| 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 |

| EC number: 911-815-4 | tris(2-chloro-1-methylethyl)phosphate | 10- <20% |
| Reg.nr.: 01-2119486772-26-xxxx | | |
| Acute Tox. 4, H302 |

(Contd. of page 1)
Trade name: illbruck FM510

| CAS: 115-10-6 | dimethyl ether | Flam. Gas 1, H220; Press. Gas C, H280 | 5-<10% |
| CAS: 75-28-5  | isobutane      | Flam. Gas 1, H220; Press. Gas C, H280 | 5-<10% |
| CAS: 74-98-6  | propane        | Flam. Gas 1, H220; Press. Gas C, H280 | 1-<5%  |

**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.

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:

- CO2, 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 (NOx)
- Under certain fire conditions, traces of other toxic gases cannot be excluded, e.g.:
  Hydrogen cyanide (HCN)
**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.
  Keep ignition sources away - Do not smoke.
  Protect against electrostatic charges.
  Pressurised 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.

- **7.2 Conditions for safe storage, including any incompatibilities**
  **Storage:**
  Requirements to be met by storerooms and receptacles:
  Store in a cool location.
  Observe official regulations on storing packagings with pressurised 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**

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

<table>
<thead>
<tr>
<th>Substance</th>
<th>WEL Short-term value</th>
<th>WEL Long-term value</th>
<th>Sen; as -NCO</th>
</tr>
</thead>
<tbody>
<tr>
<td>9016-87-9 diphenylmethanediisocyanate, isomers and homologues</td>
<td>0.07 mg/m³</td>
<td>0.02 mg/m³</td>
<td></td>
</tr>
<tr>
<td>115-10-6 dimethyl ether</td>
<td>958 mg/m³, 500 ppm</td>
<td>766 mg/m³, 400 ppm</td>
<td></td>
</tr>
</tbody>
</table>

  · **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**
          - Butyl rubber, BR
          - Recommended thickness of the material: ≥ 0.7 mm
          - Nitrile rubber, NBR
          - Recommended thickness of the material: ≥ 0.4 mm

    · **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: Aerosol
    - Colour: According to product specification
    - Odour: Characteristic
    - Odour threshold: Not determined.
  - pH-value: Not determined.
  - Melting point/Melting range: Not determined.
  - Boiling point/Boiling range: Not determined.
  - Flash point: -97 °C
  - Flammability (solid, gaseous): Not applicable.
  - Ignition temperature:
    - Decomposition temperature: Not determined.
    - Self-igniting: Product is not self-igniting.
    - 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/cm³
  - 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.
    - Kinematic: Not determined.
  - Solvent content:
    - VOC (EU): 179.4 g/l
    - VOC (EC): 17.40 %
  - 9.2 Other information: No further relevant information available.

SECTION 10: Stability and reactivity

- 10.1 Reactivity: No further relevant information available.

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

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Version number 5

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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
Harmful if inhaled.

LD/LC50 values relevant for classification:

<table>
<thead>
<tr>
<th>9016-87-9 diphenylmethanediisocyanate, isomers and homologues</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50</td>
</tr>
<tr>
<td>Dermal LD50</td>
</tr>
<tr>
<td>Inhalative LC50/4 h</td>
</tr>
</tbody>
</table>

tris(2-chloro-1-methylethyl)phosphate

| Oral LD50 | 632 mg/kg (rat) |

Primary irritant effect:

Skin corrosion/irritation
Causes skin irritation.

Serious eye damage/irritation
Causes serious eye irritation.

Respiratory or skin sensitisation
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)

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

Carcinogenicity
Suspected of causing cancer.

Reproductive toxicity
Based on available data, the classification criteria are not met.

STOT-single exposure
May cause respiratory irritation.

STOT-repeated exposure
May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard
Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

<table>
<thead>
<tr>
<th>9016-87-9 diphenylmethanediisocyanate, isomers and homologues</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC50/24 h</td>
</tr>
<tr>
<td>LC0/96 h</td>
</tr>
</tbody>
</table>

(Contd. on page 8)
Trade name: illbruck FM510

41.1.0

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.

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

14.3 Transport hazard class(es)

ADR

Class 2 5F Gases.
### Trade name: illbruck FM510

<table>
<thead>
<tr>
<th>· Label</th>
<th>2.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>· IMDG, IATA</td>
<td></td>
</tr>
</tbody>
</table>

| · 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 Marpol and the IBC Code
- Not applicable.

#### Transport/Additional information:
- **ADR**
  - Limited quantities (LQ) 1L
  - Excepeted quantities (EQ) Code: E0
    Not permitted as Excepted Quantity
  - 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**
  - Limited quantities (LQ) 1L
  - Excepeted quantities (EQ) Code: E0
    Not permitted as Excepted Quantity
  - 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)

- **UN "Model Regulation":**
  UN1950, AEROSOLS, 2.1

(Contd. on page 10)
SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
"CHIP" SI 2009 No.716.
COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010
COMMISSION REGULATION (EU) 2015/830 of 28 May 2015

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.

Previous Revision Date: 29-07-2010 (UK)

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)
VOC: Volatile Organic Compounds (USA, EU)
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
Flam. Gas 1: Flammable gases, Hazard Category 1
Flam. Aerosol 1: Flammable aerosols, Hazard Category 1
Press. Gas C: Gases under pressure: Compressed gas
Trade name: illbruck FM510

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- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1
- Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
- Carc. 2: Carcinogenicity, Hazard Category 2
- STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
- STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2

* * Data compared to the previous version altered.