

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

Printing date 15.03.2013

Version number 2

Revision: 12.12.2011

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

- **1.1 Product identifier**

- Trade name: **illbruck FM230**

- **MSDS code:** A-I-FM230

- **1.2 Relevant identified uses of the substance or mixture and uses advised against**

- **Application of the substance / the preparation** 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.

2 Hazards identification

- **2.1 Classification of the substance or mixture**

- **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.



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.

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.03.2013

Version number 2

Revision: 12.12.2011

Trade name: illbruck FM230

(Contd. of page 1)

- **2.2 Label elements**

- **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

- **Code letter and hazard designation of product:**

Xn Harmful

F+ Extremely flammable

- **Hazard-determining components of labelling:**

diphenylmethanediisocyanate, isomers and homologues

- **Risk phrases:**

12 Extremely flammable.

20 Harmful by inhalation.

36/37/38 Irritating to eyes, respiratory system and skin.

40 Limited evidence of a carcinogenic effect.

42/43 May cause sensitisation by inhalation and skin contact.

48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

- **Safety phrases:**

2 Keep out of the reach of children.

16 Keep away from sources of ignition - No smoking.

23 Do not breathe vapour/spray.

36/37 Wear suitable protective clothing and gloves.

45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

51 Use only in well-ventilated areas.

60 This material and its container must be disposed of as hazardous waste.

- **Special labelling of certain preparations:**

Contains isocyanates. See information supplied by the manufacturer

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use.

Do not spray on a naked flame or any incandescent material.

- **Classification in accordance with Directive 75/324/EEC: Extremely flammable**

- **2.3 Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **3.2 Chemical characterization: Mixtures**

- **Description:** Active substance with propellant

- **Dangerous components:**

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31






















Printing date 15.03.2013

Version number 2

Revision: 12.12.2011

Trade name: illbruck FM230

(Contd. of page 2)

CAS: 9016-87-9 EINECS: 202-966-0	diphenylmethanediisocyanate, isomeres 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%
CAS: 8001-79-4 EINECS: 232-293-8	Castor oil  Xi R38  Skin Irrit. 2, H315	20- <30%
CAS: 115-10-6 EINECS: 204-065-8	dimethyl ether  F+ R12  Flam. Gas 1, H220;  Press. Gas, H280	5- <10%
CAS: 26040-51-7 EINECS: 247-426-5	bis(2-ethylhexyl) tetrabromophthalate  Eye Irrit. 2, H319	5- <10%
CAS: 1244733-77-4 EC number: 911-815-4	tris(2-chloro-1-methylethyl)phosphate  Xn R22  Acute Tox. 4, H302	5- <10%
CAS: 75-28-5 EINECS: 200-857-2	isobutane  F+ R12  Flam. Gas 1, H220;  Press. Gas, H280	1- <5%
CAS: 74-98-6 EINECS: 200-827-9	propane  F+ R12  Flam. Gas 1, H220;  Press. Gas, H280	1- <5%
CAS: 6425-39-4 EINECS: 229-194-7	2,2'-dimorpholinodiethylether  Xi R36/38  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.

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.

(Contd. on page 4)

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

Printing date 15.03.2013

Version number 2

Revision: 12.12.2011

Trade name: illbruck FM230

(Contd. of page 3)

- **Hazards** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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 (NO_x)
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.

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.

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.
- **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.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.03.2013

Version number 2

Revision: 12.12.2011

Trade name: illbruck FM230

(Contd. of page 4)

- **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.

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:**

9016-87-9 diphenylmethanediisocyanate, isomeres and homologues

WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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115-10-6 dimethyl ether

WEL	Short-term value: 958 mg/m ³ , 500 ppm Long-term value: 766 mg/m ³ , 400 ppm
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- **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**
PE gloves
Recommended thickness of the material: ≥ 0.02 mm
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **For the permanent contact gloves made of the following materials are suitable:**
Nitrile rubber, NBR
Natural rubber, NR

(Contd. on page 6)

GB

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.03.2013

Version number 2

Revision: 12.12.2011

Trade name: illbruck FM230

(Contd. of page 5)

- For the permanent contact of a maximum of 15 minutes gloves made of the following materials are suitable:

PE gloves

- Eye protection:



Tightly sealed goggles

- Body protection: Protective work clothing

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.

- Change in condition

Melting point/Melting range: Not applicable, as aerosol.

Boiling point/Boiling range: -44°C

- 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: 0.99 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.

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.03.2013

Version number 2

Revision: 12.12.2011

Trade name: illbruck FM230

(Contd. of page 6)

- | | |
|--------------------------------|--|
| · Viscosity: | |
| Dynamic: | Not determined. |
| Kinematic: | Not determined. |
| · Solvent content: | |
| VOC (EU) | 153.9 g/l |
| VOC (EC) | 15.50 % |
| · 9.2 Other information | No further relevant information available. |

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.

11 Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity:**

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

9016-87-9 diphenylmethanediisocyanate, isomeres and homologues

Oral	LD50	> 10000 mg/kg (rat)
Dermal	LD50	> 10000 mg/kg (rabbit)
Inhalative	LC50/4 h	ca. 0.493 mg/L (rat)

- **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

GB

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.03.2013

Version number 2

Revision: 12.12.2011

Trade name: illbruck FM230

(Contd. of page 7)

* 12 Ecological information

· 12.1 Toxicity

· Aquatic toxicity:

9016-87-9 diphenylmethanediisocyanate, isomeres 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)

· 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.

· Additional ecological information:

· General notes:

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· 12.5 Results of PBT and vPvB assessment

· PBT:

Not applicable.

· vPvB:

Not applicable.

· 12.6 Other adverse effects

No further relevant information available.

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.

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

(Contd. on page 9)

GB

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

Printing date 15.03.2013

Version number 2

Revision: 12.12.2011

Trade name: illbruck FM230

(Contd. of page 8)

- **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**
- **Tunnel restriction code** D

* **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).

"Aerosol" Regulation (EC) No 75/324.

- **National regulations:**

- **Information about limitation of use:**

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

(Contd. on page 10)

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

Printing date 15.03.2013

Version number 2

Revision: 12.12.2011

Trade name: illbruck FM230

(Contd. of page 9)

- **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.

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. |
| R36/38 | Irritating to eyes 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. |

- **Previous Revision Date:** 17-01-2011 (UK)
- *** Data compared to the previous version altered.**