

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

Printing date 02.12.2013

Revision: 02.12.2013

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

· **Product identifier**

· **Trade name: Technovit-2-Bond**

· **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.

· **Application of the substance / the preparation** Adhesives

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Heraeus Kulzer GmbH
Grüner Weg 11, D-63450 Hanau

Tel.: 0800 4372522

· **Informing department:**

Product Management Technique
Tel.: +49 6081 959-367
Fax: +49 6081 959-398
email: technik.wehrheim@kulzer-dental.com

· **Emergency telephone number:**

Emergency CONTACT (24-Hour-Number): GBK GmbH +49 (0)6132-84463

2 Hazards identification

· **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.

· **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.

· **Classification system:**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

· **Label elements**

· **Labelling according to EU guidelines:**

The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)

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



Xn Harmful

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

diphenylmethane-4,4'-di-isocyanate
Benzene, 1,1'-methylenebis[4-isocyanato-, homopolymer
Triethoxy(3-isocyanatipropyl)silan
m-phenylenebis(methylamine)

· **Risk phrases:**

20 Harmful by inhalation.
36/37/38 Irritating to eyes, respiratory system and skin.

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- 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:**

- 9 Keep container in a well-ventilated place.
- 23 Do not breathe gas.
- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 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).

- **Special labelling of certain preparations:**

Contains isocyanates. See information supplied by the manufacturer

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** -

- **Dangerous components:**

CAS: 101-68-8 EINECS: 202-966-0	diphenylmethane-4,4'-di-isocyanate Xn R20-40-48/20; Xn R42/43; Xi R36/37/38 Carc. Cat. 3	25-50%
CAS: 25686-28-6 NLP: 500-040-3	Benzene, 1,1'-methylenebis[4-isocyanato-, homopolymer Xn R20-40-48/20; Xn R42/43; Xi R36/37/38	5-10%
CAS: 1477-55-0 EINECS: 216-032-5	m-phenylenebis(methylamine) C R34; Xn R22	0-5%
CAS: 2530-83-8 EINECS: 219-784-2	[3-(2,3-epoxypropoxy)propyl]trimethoxysilane Xi R41	0-5%
CAS: 24801-88-5 EINECS: 246-467-6	Triethoxy(3-isocyanatopropyl)silan T+ R26; C R34; Xn R21/22; Xn R42/43	< 1%

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

4 First aid measures

- **Description of first aid measures**

- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact**
Instantly rinse with water.
Seek medical treatment.
- **After eye contact**
Rinse opened eye for several minutes under running water. If symptoms persist, consult doctor.
- **After swallowing**
Rinse out mouth and then drink plenty of water.
Call a doctor immediately.
- **Information for doctor**
 - **Most important symptoms and effects, both acute and delayed**
No further relevant information available.

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

5 Firefighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents**
 Carbon dioxide
 Fire-extinguishing powder
 Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture**
 Formation of toxic gases is possible during heating or in case of fire.
 Can be released in case of fire
 Carbon monoxide (CO)
 Nitrogen oxides (NOx)
- **Advice for firefighters**
 - **Protective equipment:** Put on breathing apparatus.
- **Additional information -**

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
 Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
 Do not allow to enter drainage system, surface or ground water.
 Do not allow to enter the ground/soil.
- **Methods and material for containment and cleaning up:**
 Dispose of the material collected according to regulations.
- **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.
 -

7 Handling and storage

- **Handling**
 - **Precautions for safe handling**
 Keep containers tightly sealed.
 Ensure good ventilation/exhaustion at the workplace.
 Wear protective equipment. Keep unprotected persons away.
 Reacts with oxidizing agents
 - **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
 - **Storage**
 - **Requirements to be met by storerooms and containers:** No special requirements.
 - **Information about storage in one common storage facility:**
 Store away from oxidizing agents.
 - **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection· **Control parameters**· **Components with critical values that require monitoring at the workplace:****101-68-8 diphenylmethane-4,4'-di-isocyanate**

WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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· **Additional information:** The lists that were valid during the compilation were used as basis.· **Exposure controls**· **Personal protective equipment**· **General protective and hygienic measures**

Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.

· **Breathing equipment:** Use breathing protection in case of insufficient ventilation.· **Protection of hands:**

If skin contact cannot be avoided, protective gloves are recommended to avoid possible sensitization.

· **Material of gloves**

Butyl rubber, BR

Recommended thickness of the material: ≥ 0.4 mm· **Penetration time of glove material** Value for the permeation: Level ≤ 480 min· **Eye protection:** Safety glasses· **Body protection:** Light weight protective clothing**9 Physical and chemical properties**· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**· **Form:**

Liquid

· **Colour:**

Clear

· **Smell:**

Light

Like ammoniac

· **Odour threshold:**

Not determined.

· **pH-value:**

Not determined.

· **Change in condition**· **Melting point/Melting range:**

Not determined

· **Boiling point/Boiling range:**

Not determined

· **Flash point:**

143 °C

· **Inflammability (solid, gaseous)**

Not applicable.

· **Ignition temperature:**· **Decomposition temperature:**

Not determined.

· **Self-inflammability:**

Product is not selfigniting.

· **Danger of explosion:**

Product is not explosive.

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<ul style="list-style-type: none"> · Critical values for explosion: <ul style="list-style-type: none"> · Lower: Not determined. · Upper: Not determined.
<ul style="list-style-type: none"> · Steam pressure: Not determined.
<ul style="list-style-type: none"> · Density Not determined <ul style="list-style-type: none"> · Relative density Not determined. · Vapour density at 20 °C $\geq 1 \text{ g/cm}^3$ · Evaporation rate at 20 °C $\leq 1 \text{ g/cm}^3$
<ul style="list-style-type: none"> · Solubility in / Miscibility with <ul style="list-style-type: none"> · Water: Insoluble
<ul style="list-style-type: none"> · Partition coefficient (n-octanol/water): Not determined.
<ul style="list-style-type: none"> · Viscosity: <ul style="list-style-type: none"> · dynamic: Not determined. · kinematic: Not determined.
<ul style="list-style-type: none"> · Other information No further relevant information available.

10 Stability and reactivity

- **Reactivity**
 - **Chemical stability**
 - **Conditions to be avoided:** No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** Reacts with strong acids and oxidizing agents
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:**
 - Water.
 - Strong acids
 - Strong bases
- **Additional information:** -

11 Toxicological information

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

· LD/LC50 values that are relevant for classification:		
101-68-8 diphenylmethane-4,4'-di-isocyanate		
Oral	LD50	31.600 mg/kg (rat)
Inhalative	LC50/4 h	0.369 mg/l (rat)
9082-00-2 GLYCEROL PROPOXYLATE-B-ETHOXYLATE		
Oral	LD50	> 10000 mg/kg (rat)
Dermal	LD50	> 5000 mg/kg (rabbit)
25723-16-4 Trimethylolpropan-poly (oxypropylen)-triether		
Oral	LD50	> 2500 mg/kg (rat)
Dermal	LD50	> 2000 mg/kg (rat)
102-60-3 1,1',1'',1'''-ethylenedinitrilotetrapropan-2-ol		
Oral	LD50	3280 mg/kg (rat)
Dermal	LD50	> 2000 mg/kg (rabbit)

- **Primary irritant effect:**
 - **on the skin:** Irritant for skin and mucous membranes.

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- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:**
Sensitization possible by inhalation.
Sensitization possible by skin contact.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)** see chap. 2

12 Ecological information

- **Toxicity**
 - **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
 - **Bioaccumulative potential** No further relevant information available.
 - **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
 - **General notes:** Avoid transfer into the environment.
- **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
 - **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **European waste catalogue**

08 04 09*	waste adhesives and sealants containing organic solvents or other dangerous substances
20 01 27*	paint, inks, adhesives and resins containing dangerous substances
- **Uncleaned packagings:**
 - **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|--|-----------------|
| · UN-Number
· ADR, ADN, IMDG, IATA | Void |
| · UN proper shipping name
· ADR, ADN, IMDG, IATA | Void |
| · Transport hazard class(es)
· ADR, ADN, IMDG, IATA
· Class | Void |
| · Packing group
· ADR, IMDG, IATA | Void |
| · Environmental hazards:
· Marine pollutant: | No |
| · Special precautions for user | Not applicable. |

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- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** *Not applicable.*
- **Transport/Additional information:** -

15 Regulatory information

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

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**

- R20 Harmful by inhalation.*
- R21/22 Harmful in contact with skin and if swallowed.*
- R22 Harmful if swallowed.*
- R26 Very toxic by inhalation.*
- R34 Causes burns.*
- R36/37/38 Irritating to eyes, respiratory system and skin.*
- R40 Limited evidence of a carcinogenic effect.*
- R41 Risk of serious damage to eyes.*
- R42/43 May cause sensitisation by inhalation and skin contact.*
- R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.*

- *** Data compared to the previous version altered.**

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