

# Material Safety Data Sheet acc. to ISO/DIS 11014

Printing date 08/12/2008

Reviewed on 08/12/2008

## 1 Identification of substance:

### · Product details:

· Trade name: **iBOND Total Etch**

· Application of the substance / the preparation Dental bonding material

### · Manufacturer/Supplier:

Heraeus Kulzer GmbH  
Grüner Weg 11, D-63450 Hanau

Tel.: 0800 4372522

### · Information department:

Dr. Hoffmann  
Tel.: +49 6081 959-313  
Fax: +49 6081 959-223  
email: marcus.hoffmann@heraeus.com  
USA:  
Cheryl Zimmerman  
Tel. +1 (574) 2996662 / Fax: +1 (574) 2996614  
e-mail: cheryl.zimmerman@heraeus.com

· Emergency information: Call +49 30 19240 (24 hours).

## 2 Composition/Data on components:

### · Chemical characterization

· Description: -

### · Dangerous components:

64-17-5	ethanol	F; R 11	25-50%
868-77-9	2-hydroxyethyl methacrylate	Xi; R 36/38-43	10-25%
	Poly(methacrylic-oligo-acrylic acid)	Xi; R 36	0-5%
70293-55-9	4-methacryloxyethyltrimellitic acid anhydride	Xn; R 22-36/38-43	0-5%
111-30-8	glutaral	T, N; R 23/25-34-42/43-50	0-5%

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

## 3 Hazards identification

### · Hazard description:



Xn Harmful

### · Information pertaining to particular dangers for man 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.

R 10 Flammable.

R 20/22 Harmful by inhalation and if swallowed.

R 37/38 Irritating to respiratory system and skin.

R 41 Risk of serious damage to eyes.

R 42/43 May cause sensitization by inhalation and skin contact.

### · Classification system

The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

· NFPA ratings for USA (scale 0-4)



Health = 2

Fire = 3

Reactivity = 0

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## · HMIS-Ratings (Scale 0-4)

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HEALTH	2
FIRE	3
REACTIVITY	0

Health = \*2

Fire = 3

Reactivity = 0

## 4 First aid measures

- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact**  
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing** Immediately call a doctor.

## 5 Fire fighting measures

- **Suitable extinguishing agents**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with full jet.
- **Special hazards caused by the material, its products of combustion or resulting gases:**  
Can form explosive gas-air mixtures.  
Formation of toxic gases is possible during heating or in case of fire.
- **Protective equipment:** Mount respiratory protective device.
- **Additional information** -

## 6 Accidental release measures

- **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:**  
Do not allow to penetrate the ground/soil.  
No special measures required.
- **Measures for cleaning/collecting:**  
Absorb with liquid binding material (diatomite, universal binders, for small amounts tissues).  
Send for recovery or disposal in suitable receptacles.
- **Additional information:**  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

- **Handling**
  - **Information for safe handling:**  
Keep receptacles tightly sealed.  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
  - **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **Storage**
  - **Requirements to be met by storerooms and receptacles:** No special requirements.
  - **Information about storage in one common storage facility:** Not required.

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 · **Further information about storage conditions:** Keep cool, if possible (not above 25 °C).

## 8 Exposure controls and personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

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

### 64-17-5 ethanol

PEL 1900 mg/m<sup>3</sup>, 1000 ppm  
 REL 1900 mg/m<sup>3</sup>, 1000 ppm  
 TLV 1880 mg/m<sup>3</sup>, 1000 ppm

### 111-30-8 glutaral

REL Short-term value: C 0.8 mg/m<sup>3</sup>, C 0.2 ppm  
 TLV Short-term value: C 0.2 mg/m<sup>3</sup>, C 0.05 ppm  
 SEN

### amorphes Siliziumdioxid

PEL Short-term value: 80 mg/m<sup>3</sup>  
 as % SiO<sub>2</sub>  
 REL 6 mg/m<sup>3</sup>  
 TLV 10 mg/m<sup>3</sup>  
 (e)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **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.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

Not necessary with efficient local exhaust. If exposition to vapours is possible, use breathing protective mask (filter A).

· **Protection of hands:**

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

Solvent resistant gloves

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **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 of a maximum of 15 minutes gloves made of the following materials are suitable:**

Butyl rubber, BR

· **Eye protection:** Tightly sealed goggles.

· **Body protection:** Light weight protective clothing

## 9 Physical and chemical properties:

· **General Information**

· **Form:** Fluid

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· <b>Color:</b>	Yellowish
· <b>Odor:</b>	Characteristic
· <b>Change in condition</b>	
· <b>Melting point/Melting range:</b>	undetermined
· <b>Boiling point/Boiling range:</b>	undetermined
· <b>Flash point:</b>	24°C (75°F)
· <b>Ignition temperature:</b>	425°C (797°F)
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b>	
· <b>Lower:</b>	3.5 Vol %
· <b>Upper:</b>	15.0 Vol %
· <b>Vapor pressure at 20°C (68°F):</b>	57 hPa (43 mm Hg)
· <b>Density:</b>	Not determined
· <b>Solubility in / Miscibility with</b>	
· <b>Water:</b>	Not miscible or difficult to mix

**10 Stability and reactivity**

- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of decomposition:** none
- **Additional information:** -

**11 Toxicological information**

- **Acute toxicity:**
- **Primary irritant effect:**
  - **on the skin:** Irritant to skin and mucous membranes.
  - **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:**
  - Sensitization possible through inhalation.
  - Sensitization possible through skin contact.
- **Additional toxicological information:** Harmful

**12 Ecological information:**

- **General notes:** Avoid transfer into the environment.

**13 Disposal considerations**

- **Product:**
- **Recommendation**
  - Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

**14 Transport information**· **DOT regulations:**

- **Hazard class:** 3
- **Identification number:** UN1170
- **Packing group:** III
- **Proper shipping name (technical name):** ETHANOL SOLUTION
- **Label:** 3

· **Land transport ADR/RID (cross-border)**

- **ADR/RID class:** 3 (F1) Flammable liquids
- **Danger code (Kemler):** 30
- **UN-Number:** 1170
- **Packaging group:** III
- **Label:** 3
- **Description of goods:** 1170 ETHANOL SOLUTION

· **Maritime transport IMDG:**

- **IMDG Class:** 3
- **UN Number:** 1170
- **Label:** 3
- **Packaging group:** III
- **EMS Number:** F-E,S-D
- **Marine pollutant:** No
- **Propper shipping name:** ETHANOL SOLUTION

· **Air transport ICAO-TI and IATA-DGR:**

- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1170
- **Label:** 3
- **Packaging group:** III
- **Propper shipping name:** ETHANOL SOLUTION

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## 15 Regulations

### · SARA Section 355 (extremely hazardous substances)

None of the ingredients is listed.

### · SARA Section 313 (specific toxic chemical listings)

None of the ingredients is listed.

### · TSCA (Toxic Substances Control Act) Medical devices are exempted from TSCA.

### · Prop 65 - Chemicals known to cause cancer

None of the ingredients is listed.

### · Cancerogenity categories

#### · EPA (Environmental Protection Agency)

None of the ingredients is listed.

#### · IARC (International Agency for Research on Cancer)

amorphes Siliziumdioxid

3

#### · NTP (National Toxicology Program)

None of the ingredients is listed.

#### · TLV (Threshold Limit Value established by ACGIH)

64-17-5 ethanol

A4

111-30-8 glutaral

A4

#### · NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

#### · OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

### · Markings 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

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

2-hydroxyethyl methacrylate

glutaral

4-methacryloxyethyltrimellitic acid anhydride

#### · Risk phrases:

10 Flammable.

20/22 Harmful by inhalation and if swallowed.

37/38 Irritating to respiratory system and skin.

41 Risk of serious damage to eyes.

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

#### · Safety phrases:

7/9 Keep container tightly closed and in a well-ventilated place.

23 Do not breathe fumes

24 Avoid contact with skin.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

37/39 Wear suitable gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately.

## 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.

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· **Relevant R-phrases**

- 11 Highly flammable.
- 22 Harmful if swallowed.
- 23/25 Toxic by inhalation and if swallowed.
- 34 Causes burns.
- 36 Irritating to eyes.
- 36/38 Irritating to eyes and skin.
- 42/43 May cause sensitization by inhalation and skin contact.
- 43 May cause sensitization by skin contact.
- 50 Very toxic to aquatic organisms.

· **Department issuing MSDS:** Safety department

· **Contact:**

Dr. Thiele Tel.: (+49) 6181 35-3012

email: [ruediger.thiele@heraeus.com](mailto:ruediger.thiele@heraeus.com)

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

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