

**Material Safety Data Sheet  
According to 91/155 EEC**

Printing date 22.12.2008

Reviewed on 15.12.2008

### 1 Identification of substance

· **Product details**

· **Trade name: Gluma Comfort Bond + Desensitizer**

· **Application of the substance / the preparation** Dental bonding material

· **Manufacturer/Supplier:**

Heraeus Kulzer GmbH  
Grüner Weg 11, D-63450 Hanau

Tel.: 0800 4372522

· **Informing department:**

Dr. Hoffmann  
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email: marcus.hoffmann@heraeus.com

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

### 2 Composition/Data on components:

· **Chemical characterization**

· **Description:** Product based on methacrylates

· **Dangerous components:**

CAS: 64-17-5 EINECS: 200-578-6	ethanol F; R 11	25-50%
CAS: 868-77-9 EINECS: 212-782-2	2-hydroxyethyl methacrylate Xi; R 36/38-43	10-25%
	Poly(methacrylic-oligo-acrylic acid) Xi; R 36	5-10%
CAS: 70293-55-9	4-methacryloxyethyltrimellitic acid anhydride Xn; R 22-36/38-43	0-5%
CAS: 111-30-8 EINECS: 203-856-5	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 designation:**



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 sensitisation by inhalation and skin contact.

· **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.

GB

(Contd. on page 2)

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(Contd. of page 1)

#### 4 First aid measures

- **General information**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation** Supply fresh air; consult doctor in case of symptoms.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.
- **After swallowing**  
Instantly call for doctor.  
Product based on methacrylates

#### 5 Fire fighting measures

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

#### 6 Accidental release measures

- **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:** No special measures required.
- **Measures for cleaning/collecting:**  
Absorb with liquid-binding material (diatomite, universal binders, for small amounts tissues).  
Dispose of contaminated material as waste according to item 13.  
Send for recovery or disposal in suitable containers.
- **Additional information:**  
See Section 8 for information on personal protection equipment.  
See Section 13 for information on disposal.

#### 7 Handling and storage

- **Handling**
  - **Information for safe handling:**  
Keep containers 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 containers:** No special requirements.
  - **Information about storage in one common storage facility:** Not required.
  - **Further information about storage conditions:** Store cool (not above 25 °C).

#### 8 Exposure controls and personal protection

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

(Contd. on page 3)

GB

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(Contd. of page 2)

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

**64-17-5 ethanol**

OES () Long-term value: 1920 mg/m<sup>3</sup>, 1000 ppm

**111-30-8 glutaral**

MEL () Short-term value: 0.2 mg/m<sup>3</sup>, 0.05 ppm  
Long-term value: 0.2 mg/m<sup>3</sup>, 0.05 ppm  
Sen

OES () Short-term value: 0.7 mg/m<sup>3</sup>, 0.2 ppm

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

**· 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:**

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

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **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 trough 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 safety glasses.

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

**9 Physical and chemical properties:**

**· General Information**

· **Form:** Fluid  
· **Colour:** Yellowish  
· **Smell:** Characteristic

**· Change in condition**

· **Melting point/Melting range:** Not determined  
· **Boiling point/Boiling range:** 78°C

· **Flash point:** 24°C

· **Ignition temperature:** 425.0°C

(Contd. on page 4)

**Material Safety Data Sheet**  
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(Contd. of page 3)

- |   |  |
|---|--|
| · <b>Self-inflammability:</b>             | Product is not selfigniting.   |
| · <b>Danger of explosion:</b>             | Product is not explosive. However, formation of explosive air/vapour mixtures is possible. |
| · <b>Critical values for explosion:</b>   |  |
| · <b>Lower:</b>                           | 3.5 Vol %  |
| · <b>Upper:</b>                           | 15.0 Vol %   |
| · <b>Steam pressure at 20°C:</b>          | 57 hPa   |
| · <b>Density</b>                          | Not determined   |
| · <b>Solubility in / Miscibility with</b> |  |
| · <b>Water:</b>                           | Not miscible or difficult to mix   |
| · <b>Solvent content:</b>                 |  |
| · <b>Water:</b>                           | 10.0 %   |

### 10 Stability and reactivity

- **Conditions to be avoided:** No decomposition if used and stored according to specifications.
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of composition:** None

### 11 Toxicological information

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

### 12 Ecological information:

- **General notes:**
  - Do not allow product to reach ground water, water bodies or sewage system.
  - Danger to drinking water if even small quantities leak into soil.

### 13 Disposal considerations

- **Product:**
  - **Recommendation**
    - Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
  - **European waste catalogue**
    - 18 01 06 | chemicals consisting of or containing dangerous substances

(Contd. on page 5)

GB

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(Contd. of page 4)

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

### 14 Transport information

- **Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**



- **ADR/RID-GGVS/E Class:** 3 (F1) Flammable liquids.
- **Kemler Number:** 30
- **UN-Number:** 1170
  - **Packaging group:** III
- **Label:** 3
- **Designation of goods:** 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

- **Maritime transport IMDG/GGVSea:**



- **IMDG/GGVSea Class:** 3
- **UN Number:** 1170
  - **Label:** 3
- **Packaging group:** III
- **EMS Number:** F-E,S-D
- **Marine pollutant:** No
- **Correct technical name:** ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

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



- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1170
  - **Label:** 3
- **Packaging group:** III
- **Correct technical name:** ETHANOL, solution

- **Transport/Additional information:** -

### 15 Regulatory information

- **Designation according to EC 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:**  
2-hydroxyethyl methacrylate  
glutaral

(Contd. on page 6)

GB

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(Contd. of page 5)

*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 sensitisation 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 (show the label where possible).*

**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 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 sensitisation by inhalation and skin contact.*
- 43 *May cause sensitisation by skin contact.*
- 50 *Very toxic to aquatic organisms.*

**· Contact:**

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