

Material Safety Data Sheet acc. to ISO/DIS 11014

Printing date 08/24/2010

Reviewed on 08/23/2010

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

· **Information department:**

Dr. Hoffmann
Tel.: +49 6081 959-313
Fax: +49 6081 959-223
email: marcus.hoffmann@heraeus.com

· **Emergency information:**

Call "Poisoning Emergency Center Berlin": +49 30 30686 790 (24 hours, support in english and german language)

2 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

· **HMIS-Ratings (Scale 0-4)**



Health = *2
Fire = 3
Reactivity = 0

3 Composition/Data on components:

· **Chemical characterization**

· **Description:** Composition based on methacrylates

· **Dangerous components:**

64-17-5	ethanol	F; R 11	25-50%
868-77-9	2-hydroxyethyl methacrylate	Xi; R 36/38-43	10-25%

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	Poly(methacrylic-oligo-acrylic acid)	Xi; R 36	5-10%
70293-55-9	4-methacryloxyethyltrimellitic acid anhydride	Xn, Xi; R 22-36/38-43	0-5%
111-30-8	glutaral	T, C, N; R 23/25-34-42/43-50	0-5%

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

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 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.
Composition based on methacrylates

5 Fire fighting measures

- **Suitable extinguishing agents**
CO₂, 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:** No special measures required.
- **Measures for cleaning/collecting:**
Absorb with liquid binding material (diatomite, universal binders, for small amounts tissues).
Dispose contaminated material as waste according to item 13.
Send for recovery or disposal in suitable receptacles.
- **Additional information:**
See Section 13 for disposal information.
See Section 8 for information on personal protection equipment.
-

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.

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· **Storage**

- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **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 ³ , 1000 ppm
REL ()	1900 mg/m ³ , 1000 ppm
TLV ()	1880 mg/m ³ , 1000 ppm

111-30-8 glutaral

REL ()	Short-term value: C 0.8 mg/m ³ , C 0.2 ppm
TLV ()	Short-term value: C 0.2 mg/m ³ , C 0.05 ppm
SEN	

- **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

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 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

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9 Physical and chemical properties:

· General Information

- | | |
|-----------------|----------------|
| · Form: | Fluid |
| · Color: | Yellowish |
| · Odor: | Characteristic |

· Change in condition

- | | |
|---------------------------------------|--------------|
| · Melting point/Melting range: | undetermined |
| · Boiling point/Boiling range: | 78°C (172°F) |

· Flash point:	24°C (75°F)
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· Ignition temperature:	425.0°C (797°F)
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· Auto igniting:	Product is not selfigniting.
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· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
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· Explosion limits:

- | | |
|-----------------|------------|
| · Lower: | 3.5 Vol % |
| · Upper: | 15.0 Vol % |

· Vapor pressure at 20°C (68°F):	57 hPa (43 mm Hg)
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· Density:	Not determined
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· Solubility in / Miscibility with

- | | |
|-----------------|----------------------------------|
| · Water: | Not miscible or difficult to mix |
|-----------------|----------------------------------|

· Solvent content:

- | | |
|-----------------|--------|
| · Water: | 10.0 % |
|-----------------|--------|

10 Stability and reactivity

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

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
 - Irritant

12 Ecological information:

- **General notes:**
 - Do not allow product to reach ground water, water course or sewage system, even in small quantities.

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

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13 Disposal considerations

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

· **Maritime transport IMDG:**



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

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· **Propper shipping 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
 · **Propper shipping name:** ETHANOL, solution

· **Transport/Additional information:** -

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.

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

None of the ingredients is listed.

· **Carcinogeny categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients is listed.

· **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

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· 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.

· 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

· * Data compared to the previous version altered.

USA