

## **SAFETY DATA SHEETS**

**This SDS packet was issued with item:**

074486080

**The safety data sheets (SDS) in this packet apply to one or more components included in the items listed below. Items listed below may require one or more SDS. Please refer to invoice for specific item number(s).**

074486056 074486064 074486072 074486437



**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 06/03/2017

Reviewed on 06/03/2017

## 1 Identification

· **Product identifier**

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

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

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

· **Manufacturer/Supplier:**

Kulzer GmbH

Leipziger Straße 2, 63450 Hanau (Germany)

Tel.: +49 (0)800 4372522

· **Information department:**

Tel. +1 (800) 431-1785 Fax: +1 (800) 522-1545

e-mail: customer.servicehkna@kulzer-dental.com

· **Emergency telephone number:**

Emergency CONTACT (24-Hour-Number)

GBK/Infotrac ID 105860: (domestic) 1 800 535 5053 or international (001) 352 323 3500

## 2 Hazard(s) identification

· **Classification of the substance or mixture**

Flam. Liq. 3 H226 Flammable liquid and vapor.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Dam. 1 H318 Causes serious eye damage.

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Sens. 1 H317 May cause an allergic skin reaction.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02



GHS05



GHS08

· **Signal word** Danger

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

2-hydroxyethyl methacrylate

glutaral

4-methacryloxyethyltrimellitic acid anhydride

maleic acid

· **Hazard statements**

Flammable liquid and vapor.

Causes skin irritation.

Causes serious eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

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[In case of inadequate ventilation] wear respiratory protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER/doctor.

· **Classification system**

· **NFPA ratings for USA (scale 0-4)**



· **HMIS-Ratings (Scale 0-4)**



· **Results of PBT and vPvB assessment**

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

**3 Composition/information on ingredients**

· **Chemical characterization: Mixtures**

· **Description:** Composition based on methacrylates

· **Dangerous components:**

64-17-5	ethanol	25-50%
	Flam. Liq. 2, H225	
868-77-9	2-hydroxyethyl methacrylate	10-25%
	Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	
	Poly(methacrylic-oligo-acrylic acid)	5-10%
	Eye Irrit. 2A, H319	
70293-55-9	4-methacryloxyethyltrimellitic acid anhydride	0-5%
	Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	
111-30-8	glutaral	0-5%
	Acute Tox. 3, H301; Acute Tox. 3, H331; Resp. Sens. 1, H334; Skin Corr. 1B, H314; Skin Sens. 1, H317; Flam. Liq. 4, H227	
110-16-7	maleic acid	< 1%
	Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	

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

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**4 First-aid measures**

· **Description of 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**

Rinse out mouth and then drink plenty of water.

Immediately call a doctor.

If symptoms persist consult doctor.

Composition based on methacrylates

· **Information for doctor**

· **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

**5 Fire-fighting measures**

· **Extinguishing media**

· **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 arising from the substance or mixture**

Can form explosive gas-air mixtures.

Formation of toxic gases is possible during heating or in case of fire.

· **Advice for firefighters**

· **Protective equipment:** Mount respiratory protective device.

· **Additional information -**

**6 Accidental release measures**

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:** No special measures required.

· **Methods and material for containment and cleaning up:**

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.

· **Reference to other sections**

See Section 13 for disposal information.

See Section 8 for information on personal protection equipment.

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## 7 Handling and storage

### · Handling

#### · Precautions 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.

### · Conditions for safe storage, including any incompatibilities

#### · 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).

### · Specific end use(s) No further relevant information available.

## 8 Exposure controls/personal protection

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

### · Control parameters

#### · 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	

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

### · 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.  
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).

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· **Protection of hands:**

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

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

Solvent resistant gloves

Check protective gloves prior to each use for their proper condition.  
recommended

· **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

Nitrile rubber, NBR

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

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

**9 Physical and chemical properties**

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

· **Form:**

Fluid

· **Color:**

Yellowish

· **Odor:**

Characteristic

· **Odor threshold:**

Not determined.

· **pH-value:**

Not determined.

· **Change in condition**

· **Melting point/Melting range:**

undetermined

· **Boiling point/Boiling range:**

78 °C (172 °F)

· **Flash point:**

24 °C (75 °F)

· **Flammability (solid, gaseous)**

Not applicable.

· **Ignition temperature:**

425.0 °C (797 °F)

· **Decomposition temperature:**

Not determined.

· **Auto igniting:**

Product is not selfigniting.

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· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <b>Explosion limits:</b>	
· Lower:	3.5 Vol %
· Upper:	15.0 Vol %
· <b>Vapor pressure at 20 °C (68 °F):</b>	57 hPa (43 mm Hg)
· <b>Density:</b>	Not determined
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· <b>Solubility in / Miscibility with</b>	
· Water:	Not miscible or difficult to mix
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
· dynamic:	Not determined.
· kinematic:	Not determined.
· <b>Solvent content:</b>	
· Water:	10.0 %
· VOC USA	577.4 g/l / 4.82 lb/gl
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Possibility of hazardous reactions** No dangerous reactions known
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** none

## 11 Toxicological information

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

· <b>LD/LC50 values that are relevant for classification:</b>		
<b>64-17-5 ethanol</b>		
Oral	LD50	6200 mg/kg (rat)
Inhalative	LC50/4 h	95.6 mg/l (rat)
<b>41137-60-4 diurethandimethacrylate</b>		
Oral	LD50	>5000 mg/kg (rat)
<b>868-77-9 2-hydroxyethyl methacrylate</b>		
Oral	LD50	5564 mg/kg (rat)

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Dermal	LD50	>3000 mg/kg (can)
<b>Poly(methacrylic-oligo-acrylic acid)</b>		
Oral	LD50	>5000 mg/kg (rat)
<b>70293-55-9 4-methacryloxyethyltrimellitic acid anhydride</b>		
Oral	LD50	> 2000 mg/kg (mouse)
Dermal	LD50	> 2000 mg/kg (mouse)
<b>110-16-7 maleic acid</b>		
Oral	LD50	708 mg/kg (rat)
Dermal	LD50	1560 mg/kg (rab)

- **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

· **Carcinogenic categories**

· <b>IARC (International Agency for Research on Cancer)</b>
None of the ingredients is listed.
· <b>NTP (National Toxicology Program)</b>
None of the ingredients is listed.
· <b>OSHA-Ca (Occupational Safety &amp; Health Administration)</b>
None of the ingredients is listed.

**12 Ecological information**

· **Toxicity**

· <b>Aquatic toxicity:</b>
<b>868-77-9 2-hydroxyethyl methacrylate</b>
LC50/96h 227 mg/l (fish)

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
  - **Bioaccumulative potential** No further relevant information available.
  - **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, even in small quantities.
    - Danger to drinking water if even extremely small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.

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· **Other adverse effects** No further relevant information available.

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**13 Disposal considerations**

· **Waste treatment methods**

· **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**

· **UN-Number**

· **DOT**

UN1170

· **ADR, IMDG, IATA**

1170

· **UN proper shipping name**

· **ADR**

1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

· **IMDG**

ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

· **IATA**

ETHANOL, solution

· **Transport hazard class(es)**

· **DOT**



· **Class**

3 Flammable liquids

· **Label**

3

· **ADR**



· **Class**

3 (F1) Flammable liquids

· **Label**

3

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· **IMDG, IATA**



· **Class**  
· **Label**

3 Flammable liquids  
3

· **Packing group**

· DOT, ADR, IMDG, IATA

III

· **Environmental hazards:**

· **Marine pollutant:**

No

· **Special precautions for user**

Warning: Flammable liquids

· **Danger code (Kemler):**

30

· **EMS Number:**

F-E,S-D

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

-

· **UN "Model Regulation":**

UN1170, ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, III

**15 Regulatory information**

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

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

None of the ingredients is listed.

· **Carcinogenicity categories**

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

64-17-5	ethanol	A4
111-30-8	glutaral	A4

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS05 GHS08

· **Signal word** Danger

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

2-hydroxyethyl methacrylate

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glutaral

4-methacryloxyethyltrimellitic acid anhydride

maleic acid

· **Hazard statements**

Flammable liquid and vapor.

Causes skin irritation.

Causes serious eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

· **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment.

[In case of inadequate ventilation] wear respiratory protection.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER/doctor.

· **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**

H225 Highly flammable liquid and vapor.

H227 Combustible liquid.

H301 Toxic if swallowed.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

· **Date of preparation / last revision** 06/03/2017 / 2

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

OSHA: Occupational Safety & Health

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TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
Flam. Liq. 2: Flammable liquids – Category 2  
Flam. Liq. 3: Flammable liquids – Category 3  
Flam. Liq. 4: Flammable liquids – Category 4  
Acute Tox. 3: Acute toxicity – Category 3  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
Resp. Sens. 1: Respiratory sensitisation – Category 1  
Skin Sens. 1: Skin sensitisation – Category 1  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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

USA