



Safety Data Sheet
acc. to OSHA HCS

Printing date 08/01/2018

Reviewed on 08/01/2018

1 Identification

· **Product identifier**

· **Trade name:** **iBOND Total Etch**

· **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.servicehna@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

· **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.

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- **Classification system**
- **NFPA ratings for USA (scale 0-4)**



- **HMS-Ratings (Scale 0-4)**

| | | |
|------------|---|----------------|
| HEALTH | 3 | Health = *3 |
| FIRE | 3 | Fire = 3 |
| REACTIVITY | 0 | Reactivity = 0 |

- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** -

- **Dangerous components:**

| | | |
|-------------|--|--------|
| 64-17-5 | ethanol Flam. Liq. 2, H225 | 25-50% |
| 868-77-9 | 2-hydroxyethyl methacrylate Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317 | 10-25% |
| | Poly(methacrylic-oligo-acrylic acid) Eye Irrit. 2A, H319 | 0-5% |
| 70293-55-9 | 4-methacryloxyethyltrimellitic acid anhydride Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317 | 0-5% |
| 112926-00-8 | amorphous silica | 0-5% |
| 111-30-8 | glutaral Acute Tox. 3, H301; Acute Tox. 3, H331; Resp. Sens. 1, H334; Skin Corr. 1B, H314; Skin Sens. 1, H317; Flam. Liq. 4, H227 | 0-5% |

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

4 First-aid measures

- **Description of 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**
Rinse out mouth and then drink plenty of water.
Immediately call a doctor.
If symptoms persist consult doctor.
- **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 Fire-fighting measures

- **Extinguishing media**
 - **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 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:**
Do not allow to penetrate the ground/soil.
No special measures required.
- **Methods and material for containment and cleaning up:**
Absorb with liquid binding material (diatomite, universal binders, for small amounts tissues).
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.
-

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.

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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/m³, 1000 ppm

REL 1900 mg/m³, 1000 ppm

TLV 1880 mg/m³, 1000 ppm

111-30-8 glutaral

REL Short-term value: C 0.8 mg/m³, C 0.2 ppm

TLV Short-term value: C 0.2 mg/m³, C 0.05 ppm
SEN

112926-00-8 amorphous silica

PEL Short-term value: 80 mg/m³
as % SiO₂

REL 6 mg/m³

TLV 10 mg/m³
(e)

· **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:** Suitable respiratory protective device recommended.

· **Protection of hands:**

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.

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

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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:

undetermined

· Flash point:

24 °C (75.2 °F)

· Flammability (solid, gaseous)

Not applicable.

· Ignition temperature:

425 °C (797 °F)

· Decomposition temperature:

Not determined.

· Auto igniting:

Product is not selfigniting.

· Danger of explosion:

Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

· Lower:

3,5 Vol %

· Upper:

15,0 Vol %

· Vapor pressure at 20 °C (68 °F):

57 hPa (42.8 mm Hg)

· Density at 20 °C (68 °F):

1 g/cm³ (8.345 lbs/gal)

· Relative density

Not determined.

· Vapor density

Not determined.

· Evaporation rate

Not determined.

· Solubility in / Miscibility with

· Water:

Not miscible or difficult to mix

· Partition coefficient (n-octanol/water): Not determined.

· Viscosity:

· dynamic:

Not determined.

· kinematic:

Not determined.

· Other information

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

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· **Additional information:** -

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11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

| | | |
|---|----------|----------------------|
| 64-17-5 ethanol | | |
| Oral | LD50 | 6200 mg/kg (rat) |
| Inhalative | LC50/4 h | 95.6 mg/l (rat) |
| 41137-60-4 diurethandimethacrylate | | |
| Oral | LD50 | >5000 mg/kg (rat) |
| 868-77-9 2-hydroxyethyl methacrylate | | |
| Oral | LD50 | 5564 mg/kg (rat) |
| Dermal | LD50 | >3000 mg/kg (can) |
| Poly(methacrylic-oligo-acrylic acid) | | |
| Oral | LD50 | >5000 mg/kg (rat) |
| 70293-55-9 4-methacryloxyethyltrimellitic acid anhydride | | |
| Oral | LD50 | > 2000 mg/kg (mouse) |
| Dermal | LD50 | > 2000 mg/kg (mouse) |
| 72869-86-4 diurethandimethacrylate | | |
| Oral | LD50 | >5000 mg/kg (rat) |

· **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

· **Carcinogenic categories**

| | | |
|---|------------------|---|
| · IARC (International Agency for Research on Cancer) | | |
| 112926-00-8 | amorphous silica | 3 |

| | | |
|--|--|--|
| · NTP (National Toxicology Program) | | |
| None of the ingredients is listed. | | |

| | | |
|--|--|--|
| · OSHA-Ca (Occupational Safety & Health Administration) | | |
| None of the ingredients is listed. | | |

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

| | | |
|---|-----------|--------|
| 868-77-9 2-hydroxyethyl methacrylate | | |
| LC50/96h | 227 mg/l | (fish) |
| 72869-86-4 diurethandimethacrylate | | |
| LC50/96h | 10.1 mg/l | (fish) |

· **Persistence and degradability** No further relevant information available.

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

14 Transport information

- | | |
|---|--|
| · UN-Number · DOT, ADR, IMDG, IATA | UN1170 |
| · UN proper shipping name · DOT, IATA · ADR · IMDG | Ethanol 1170 Ethanol ETHANOL (ETHYL ALCOHOL) |
| · Transport hazard class(es) · DOT | |
|  | |
| · Class · Label | 3 Flammable liquids 3 |
| · ADR | |
|  | |
| · Class · Label | 3 (F1) Flammable liquids 3 |

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· **IMDG, IATA**



· **Class** 3 Flammable liquids
· **Label** 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
· **Stowage Category** A

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:** -

· **ADR**

· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· **IMDG**

· **Limited quantities (LQ)** 5L
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":** UN 1170 ETHANOL, 3, III

15 Regulatory information

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

· **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.

· **Proposition 65**

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

None of the ingredients is listed.

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| | | |
|---|----------|----|
| · Chemicals known to cause reproductive toxicity for females: | | |
| None of the ingredients is listed. | | |
| · Chemicals known to cause reproductive toxicity for males: | | |
| None of the ingredients is listed. | | |
| · Chemicals known to cause developmental toxicity: | | |
| 64-17-5 | ethanol | |
| · Cancerogenity categories | | |
| · EPA (Environmental Protection Agency) | | |
| 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. | | |
| · 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.
- 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.

· Date of preparation / last revision 08/01/2018 / 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)
- HMSIS: Hazardous Materials Identification System (USA)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- NIOSH: National Institute for Occupational Safety
- OSHA: Occupational Safety & Health
- 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

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Acute Tox. 3: Acute toxicity – Category 3
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

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

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