



**Safety Data Sheet
according to HPR, Schedule 1**

Printing date 08/10/2021

Reviewed on 08/10/2021

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.servicehkna@kulzer-dental.com

· **Emergency telephone number:**

Emergency CONTACT (24-Hour-Number)

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

2 Hazard identification

· **Classification of the substance or mixture**

Skin Irritation - Category 2

H315 Causes skin irritation.

Eye Irritation - Category 2A

H319 Causes serious eye irritation.

Respiratory Sensitizer - Category 1

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

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

Specific Target Organ Toxicity - Single Exposure - Category 3

H335 May cause respiratory irritation.

· **Label elements**

· **GHS label elements**

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

· **Hazard pictograms**



GHS07 GHS08

· **Signal word** Danger

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

7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate

glutaral

2-hydroxyethyl methacrylate

4-methacryloxyethyltrimellitic acid anhydride

· **Hazard statements**

Causes skin irritation.

Causes serious eye irritation.

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

May cause an allergic skin reaction.

May cause respiratory irritation.

· **Precautionary statements**

Avoid breathing mist/vapours/spray.

Avoid release to the environment.

(Contd. on page 2)

CA



Safety Data Sheet
according to HPR, Schedule 1

Printing date 08/10/2021

Reviewed on 08/10/2021

Trade name: iBOND Total Etch

(Contd. of page 1)

Wear protective gloves/protective clothing/eye protection/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If skin irritation or rash occurs: Get medical advice/attention.

If experiencing respiratory symptoms: Call a poison center/doctor.

· **Classification system**

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



· **HMIS-Ratings (Scale 0-4)**



· **Other hazards -**

3 Composition/Information on ingredients

· **Chemical characterization: Mixtures**

· **Description: -**

· **Dangerous components:**

64-17-5	ethanol Flammable Liquids - Category 2, H225 Specific concentration limit: Eye Irritation - Category 2; H319: C ≥ 50 %	≥25-<50% w/w *
72869-86-4	7, 7, 9 (or 7, 9, 9)-trimethyl-4, 13-dioxo-3, 14-dioxo-5, 12-diazahexadecane-1, 16-diyl bismethacrylate Skin Sensitizer - Category 1B, H317	≥25-≤50% w/w *
868-77-9	2-hydroxyethyl methacrylate Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Skin Sensitizer - Category 1, H317	≥10-≤25% w/w *
	Poly(methacrylic-oligo-acrylic acid) Eye Irritation - Category 2A, H319	0-5% w/w *
70293-55-9	4-methacryloxyethyltrimellitic acid anhydride Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Skin Sensitizer - Category 1, H317	≥1-<5% w/w *
111-30-8	glutaral Acute Toxicity (Oral) - Category 3, H301; Acute Toxicity (Inhalation) - Category 2, H330 Respiratory Sensitizer - Category 1, H334 Skin Corrosion - Category 1B, H314 Skin Sensitizer - Category 1A, H317; Specific Target Organ Toxicity - Single Exposure - Category 3, H335 Flammable Liquids - Category 4, H227 Specific concentration limit: Specific Target Organ Toxicity - Single Exposure - Category 3; H335: C ≥ 0.5 %	≥1-<5% w/w *

* Actual concentration ranges are withheld as a trade secret.

(Contd. on page 3)



**Safety Data Sheet
according to HPR, Schedule 1**

Printing date 08/10/2021

Reviewed on 08/10/2021

Trade name: iBOND Total Etch

(Contd. of page 2)
· **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**
If symptoms persist consult doctor.
Rinse out mouth and then drink plenty of water.
Immediately call a doctor.

· **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**

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.

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**Safety Data Sheet
according to HPR, Schedule 1**

Printing date 08/10/2021

Reviewed on 08/10/2021

Trade name: iBOND Total Etch

(Contd. of page 3)

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

EL Short-term value: 1000 ppm

EV 1,900 mg/m³, 1,000 ppm

111-30-8 glutaral

EL Short-term value: C 0.05 ppm

S

EV activated and inactivated

112926-00-8 amorphous silica

EL 4* 1.5** mg/m³

*total; **respirable

EV 10 mg/m³

· **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

(Contd. on page 5)

CA



**Safety Data Sheet
according to HPR, Schedule 1**

Printing date 08/10/2021

Reviewed on 08/10/2021

Trade name: iBOND Total Etch

(Contd. of page 4)

- **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:** undetermined

· **Flash point:** Not applicable

· **Flammability (solid, gaseous)** Not applicable.

· **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:** Not determined.
- **Upper:** Not determined.

· **Vapor pressure:** Not determined.

· **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.

(Contd. on page 6)



**Safety Data Sheet
according to HPR, Schedule 1**

Printing date 08/10/2021

Reviewed on 08/10/2021

Trade name: iBOND Total Etch

(Contd. of page 5)

· **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
- **Additional information:** -

11 Toxicological information

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

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

64-17-5 ethanol

Oral LD50 10470 mg/kg (rat) (OECD 401)

72869-86-4 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxo-5,12-diazahexadecane-1,16-diyl bismethacrylate

Oral LD50 >5000 mg/kg (rat) (OECD 401)

Dermal LD50 >2000 mg/kg (rat) (OECD 402)

868-77-9 2-hydroxyethyl methacrylate

Oral LD50 5564 mg/kg (rat)

Dermal LD50 >5000 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)

111-30-8 glutaral

Oral LD50 77 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)**

64-17-5 ethanol

1

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

(Contd. on page 7)



**Safety Data Sheet
according to HPR, Schedule 1**

Printing date 08/10/2021

Reviewed on 08/10/2021

Trade name: iBOND Total Etch

(Contd. of page 6)
· **Reproductive toxicity** Based on available data, the classification criteria are not met.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

64-17-5 ethanol

LC50/96h	14200 mg/l (fish)
ErC50 / 72 h	275 mg/l (algae) (OECD 201)
EC50/96h	129000 mg/L (fish)
LC50/48h	5012 mg/L (daphnia)
ErC10/72h	11.5 mg/L (algae) (OECD 201)
NOEC 5d	250 mg/L (fish) (OECD 212)
NOEC 10d	9.6 mg/L (daphnia)

72869-86-4 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate

EC50/48h	>1.2 mg/l (daphnia) (OECD 202)
LC50/96h	10.1 mg/l (fish) (OECD 203)
ErC50 / 72 h	>0.68 mg/l (algae) (OECD 201)
NOEC / 72h	0.21 mg/l (algae) (OECD 201)

868-77-9 2-hydroxyethyl methacrylate

EC50/48h	380 mg/l (daphnia)
LC50/96h	>100 mg/l (fish) SDB von Evonik für 64715842 (11.04.2016)
EC50	>3000 mg/l (bacteria) 16 h
NOEC / 21d	24.1 mg/l (daphnia)
ErC50 / 72 h	836 mg/l (algae)
NOEC / 72h	400 mg/l (algae) (OECD 201)

· **Persistence and degradability**

64-17-5 ethanol

biodegradability 84 % /20d (nd)

72869-86-4 7,7,9(or 7,9,9)-trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate

biodegradability 22 % /28d (nd) (OECD 301B; ISO/ 9439/ EEC 92/69/V, C.4-C)

· **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.



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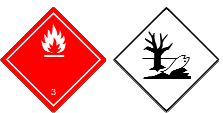

Trade name: **iBOND Total Etch**

(Contd. of page 7)

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/TDG, ADR, IMDG, IATA	UN1170
· UN proper shipping name · DOT/TDG · ADR · IMDG · IATA	ETHANOL 1170 ETHANOL (ETHYL ALCOHOL) ETHANOL (ETHYL ALCOHOL) Ethanol
· Transport hazard class(es) · DOT/TDG (Transport dangerous goods):	
	
· Class · Label	3 Flammable liquids 3
· ADR	
	
· Class · Label	3 (F1) Flammable liquids 3
· IMDG	
	
· Class · Label	3 Flammable liquids 3
· IATA	
	
· Class	3 Flammable liquids

(Contd. on page 9)



Safety Data Sheet
according to HPR, Schedule 1

Printing date 08/10/2021

Reviewed on 08/10/2021

Trade name: iBOND Total Etch

(Contd. of page 8)

· Label	3
· Packing group · DOT/TDG, ADR, IMDG, IATA	III
· Environmental hazards: · Marine pollutant:	No Yes (DOT) Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Warning: Flammable liquids 30 F-E, S-D A
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	-
· DOT/TDG · Remarks:	Special marking with the symbol (fish and tree).
· 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) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN1170, Ethanol (Ethyl alcohol), 3, III

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.
- **Sara**

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

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 vapour.

(Contd. on page 10)



**Safety Data Sheet
according to HPR, Schedule 1**

Printing date 08/10/2021

Reviewed on 08/10/2021

Trade name: iBOND Total Etch

(Contd. of page 9)

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.

H330 Fatal if inhaled.

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

H335 May cause respiratory irritation.

· **Date of the latest revision of the safety data sheet 08/10/2021 / 3**

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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)

HMS: 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

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

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