

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**C-Bond**

Revision date: 14.03.2017

Product code: CBondES

Page 1 of 10

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

C-Bond

Product group: Composite

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

C-Bond es un adhesivo dental de fotocurado que se utiliza para la unio´n adhesiva en la terapia de obturacio´n, al igual que como agente de humectacio´n en caso de reparaciones de trabajos de resina acrílica, cera mica y trabajos de coronas y puentes

**1.3. Details of the supplier of the safety data sheet**

Company name:	MEGA-PHYSIK GmbH & Co. KG	
	D-76437 Rastatt, República Federal de Alemania	
Street:	Industriestrasse 36	
Place:	D-76437 Rastatt	
Telephone:	++49 (0) 7222 9046-0	Telefax: ++49 (0) 7222 9046-10
e-mail:	info@mega-physik.de	
Contact person:	Dipl.-Ing. Helmut Schiel	Telephone: ++49 (0) 7222 9046-30
e-mail:	helmut.schiel@mega-physik.de	
Internet:	www.mega-physik.de	
Responsible Department:	el director	

**1.4. Emergency telephone number:** ++49 (0) 7222 9046-30

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No. 1272/2008**

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Skin Sens. 1

Specific target organ toxicity - single exposure: STOT SE 3

Hazardous to the aquatic environment: Aquatic Chronic 1

Hazard Statements:

Causes skin irritation.

May cause an allergic skin reaction.

Causes serious eye damage.

May cause respiratory irritation.

Very toxic to aquatic life with long lasting effects.

**2.2. Label elements****Regulation (EC) No. 1272/2008****Hazard components for labelling**

Bisphenol-A-bis-(2-hydroxypropyl)methacrylate

Bisphenol A epoxyate dimethacrylate

Triethylene glycol dimethacrylate

3-hydroxypropyl methacrylate

**Signal word:** Danger

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**C-Bond**

Revision date: 14.03.2017

Product code: CBondES

Page 2 of 10

**Pictograms:****Hazard statements**

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H410	Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

**2.3. Other hazards**

Aparatos médicos definidos en la Directiva 93/42/CEE los cuales son invasivos o utilizados en contacto físico directo con el cuerpo humano, son exentos del Reglamento (CE) 1272/2008 (CLP/GHS), si están en fase de finalización y listos para el usuario final.

PBT: No aplicable.

mPmB: No aplicable.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Chemical characterization**

Mezcla formada por las sustancias especificadas a continuación con adiciones no peligrosas.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**C-Bond**

Revision date: 14.03.2017

Product code: CBondES

Page 3 of 10

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
1565-94-2	Bisphenol-A-bis-(2-hydroxypropyl)methacrylate			45 - < 50 %
	Acute Tox. 4, Eye Dam. 1, Skin Sens. 1, Aquatic Chronic 1; H302 H318 H317 H410			
41637-38-1	Bisphenol A epoxyate dimethacrylate			20 - < 25 %
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, STOT SE 3; H315 H319 H317 H335			
109-16-0	Triethylene glycol dimethacrylate			15 - < 20 %
	203-652-6		01-2119969287-21	
	Skin Sens. 1; H317			
2761-09-3	3-hydroxypropyl methacrylate			10 - < 15 %
	220-426-2	607-125-00-5		
	Eye Irrit. 2, Skin Sens. 1; H319 H317			
21245-02-3	2-Ethylhexyl-p-dimethylaminobenzoate			< 1 %
	244-289-3		01-2120766649-35	
	Repr. 1B, Aquatic Acute 1; H360 H400			

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
1565-94-2		Bisphenol-A-bis-(2-hydroxypropyl)methacrylate	45 - < 50 %
		oral: LD50 = >5000 mg/kg	
41637-38-1		Bisphenol A epoxyate dimethacrylate	20 - < 25 %
		dermal: LD50 = 2000 mg/kg; oral: LD50 = 2000 mg/kg	
109-16-0	203-652-6	Triethylene glycol dimethacrylate	15 - < 20 %
		dermal: LD50 = >2000 mg/kg; oral: LD50 = >5000 mg/kg	
21245-02-3	244-289-3	2-Ethylhexyl-p-dimethylaminobenzoate	< 1 %
		dermal: LD50 = >2000 mg/kg; oral: LD50 = 14900 mg/kg	

**SECTION 4: First aid measures****4.1. Description of first aid measures****After inhalation**

Suministrar suficiente aire fresco y, para mayor seguridad, consultar el médico.

Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.

**After contact with skin**

After contact with skin, wash immediately with polyethylene glycol, followed by plenty of water. Take off immediately all contaminated clothing and wash it before reuse. Medical treatment necessary.

**After contact with eyes**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

**After ingestion**

Rinse mouth immediately and drink plenty of water. Consultar un médico si los trastornos persisten.

**4.2. Most important symptoms and effects, both acute and delayed**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**C-Bond**

Revision date: 14.03.2017

Product code: CBondES

Page 4 of 10

No existen más datos relevantes disponibles.

**4.3. Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

**5.2. Special hazards arising from the substance or mixture**

Non-flammable.

**5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

**Additional information**

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.

Do not allow entering drains or surface water.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General measures**

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

**6.3. Methods and material for containment and cleaning up****Other information**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage****7.1. Precautions for safe handling****Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

**Advice on protection against fire and explosion**

No se requieren medidas especiales.

**7.2. Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations.

**Hints on joint storage**

No es necesario.

**Further information on storage conditions**

Proteger de la luz.

Mantener el recipiente cerrado herméticamente.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**C-Bond**

Revision date: 14.03.2017

Product code: CBondES

Page 5 of 10

**7.3. Specific end use(s)**

No existen más datos relevantes disponibles

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
128-37-0	2,6-Di-tert-butyl-p-cresol	-	10		TWA (8 h)	WEL

**DNEL/DMEL values**

CAS No	Substance	Exposure route	Effect	Value
21245-02-3	2-Ethylhexyl-p-dimethylaminobenzoate			
Worker DNEL, long-term		inhalation	systemic	0,5 mg/m <sup>3</sup>
Worker DNEL, long-term		dermal	systemic	6,7 mg/kg bw/day

**PNEC values**

CAS No	Substance	Value
41637-38-1	Bisphenol A epoxyate dimethacrylate	
Micro-organisms in sewage treatment plants (STP)		14,3 mg/l
21245-02-3	2-Ethylhexyl-p-dimethylaminobenzoate	
Freshwater		0 mg/l
Freshwater (intermittent releases)		0 mg/l
Marine water		0 mg/l
Freshwater sediment		0,042 mg/kg
Marine sediment		0,004 mg/kg
Micro-organisms in sewage treatment plants (STP)		100 mg/l
Soil		0,008 mg/kg

**8.2. Exposure controls****Appropriate engineering controls**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

**Protective and hygiene measures**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

**Eye/face protection**

Suitable eye protection: goggles.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**C-Bond**

Revision date: 14.03.2017

Product code: CBondES

Page 6 of 10

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

Physical state:	Líquido	
Colour:	Amarillento	
Odour:	Característico	
pH-Value:		No determinado.

**Changes in the physical state**

Melting point:		Indeterminado.
Boiling point or initial boiling point and boiling range:		250 °C
Flash point:		110 °C

**Flammability**

Solid/liquid:		not applicable
Gas:		not applicable
Lower explosion limits:		not determined
Upper explosion limits:		not determined

**Self-ignition temperature**

Solid:		not applicable
Gas:		not applicable
Decomposition temperature:		not determined

**Oxidizing properties**

Not oxidising.		
Vapour pressure: (at 20 °C)		<1 hPa
Density (at 20 °C):		1,2 g/cm <sup>3</sup>
Water solubility:		Poco o no mezclable

**Solubility in other solvents**

not determined		
Partition coefficient n-octanol/water:		not determined
Viscosity / dynamic:		No determinado
Viscosity / kinematic:		No determinado
Relative vapour density:		not determined
Evaporation rate:		not determined

**9.2. Other information**

Solid content:		not determined
No existen más datos relevantes disponibles.		

**SECTION 10: Stability and reactivity****10.1. Reactivity**

No existen más datos relevantes disponibles

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**C-Bond**

Revision date: 14.03.2017

Product code: CBondES

Page 7 of 10

**10.2. Chemical stability**

Estable en condiciones normales de manipulación y almacenamiento.  
 Reacciona con la luz (Riesgo de polimerización).  
 Descomposición térmica / condiciones que deben evitarse: No se descompone al emplearse adecuadamente.

**10.3. Possibility of hazardous reactions**

No se conocen reacciones peligrosas

**10.4. Conditions to avoid**

Proteger de la luz.  
 Proteger del calor y de la luz directa del sol.

**10.5. Incompatible materials**

No existen más datos relevantes disponibles.

**10.6. Hazardous decomposition products**

Ninguno en condiciones normales de almacenamiento y uso.

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity**

- Toxicidad aguda:
- Efecto estimulante primario:
- en la piel: Irrita la piel y las mucosas.
- en el ojo: Produce irritaciones.
- Sensibilización: Posible sensibilización al entrar en contacto con la piel.
- Indicaciones toxicológicas adicionales:

En conformidad con el procedimiento de cálculo contenido en la última versión de la Normativa General de Clasificación de la CE para Preparados, el producto tiene los siguientes riesgos: Irritante

**ATEmix tested**

	Dose	Species	Source
LD50, oral	5000 mg/kg	Rat	

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
1565-94-2	Bisphenol-A-bis-(2-hydroxypropyl)methacrylate				
	oral	LD50 >5000 mg/kg	Rat	Manufacturer	
41637-38-1	Bisphenol A epoxyate dimethacrylate				
	oral	LD50 2000 mg/kg	Rat		OECD Richtlinie 412
	dermal	LD50 2000 mg/kg	rat (6h)		OECD Prüfrichtlinie 402
109-16-0	Triethylene glycol dimethacrylate				
	oral	LD50 >5000 mg/kg	Rat		
	dermal	LD50 >2000 mg/kg	mouse		
21245-02-3	2-Ethylhexyl-p-dimethylaminobenzoate				
	oral	LD50 14900 mg/kg	Rat		
	dermal	LD50 >2000 mg/kg	Rat		

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### C-Bond

Revision date: 14.03.2017

Product code: CBondES

Page 8 of 10

#### Additional information on tests

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

### SECTION 12: Ecological information

#### 12.1. Toxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
1565-94-2	Bisphenol-A-bis-(2-hydroxypropyl)methacrylate					
	Acute fish toxicity	LC50 >100 mg/l	96 h	Poecilia reticulata (Guppy)	Manufacturer	
41637-38-1	Bisphenol A epoxyate dimethacrylate					
	Acute fish toxicity	LC50 >100 mg/l	96 h	Oncorhynchus mykiss (Rainbow trout)		OECD Prüfrichtlinie 203
	Acute algae toxicity	ErC50 >100 mg/l	72 h	Pseudokirchneriella subcapitata		OECD Prüfrichtlinie 201
	Acute crustacea toxicity	EC50 >100 mg/l	48 h	Daphnia magna (Big water flea)		OECD Prüfrichtlinie 202
109-16-0	Triethylene glycol dimethacrylate					
	Acute fish toxicity	LC50 16,4 mg/l	96 h	Danio rerio	OECD-Test Nr. 203	
	Acute algae toxicity	ErC50 >100 mg/l		Pseudokirchneriella subcapitata	OECD-Test Nr. 201	
21245-02-3	2-Ethylhexyl-p-dimethylaminobenzoate					
	Acute fish toxicity	LC50 0,235 mg/l	96 h		Manufacturer	
	Acute algae toxicity	ErC50 >0,015 mg/l	72 h	Pseudokirchneriella subcapitata		
	Acute crustacea toxicity	EC50 >0,031 mg/l	48 h	Daphnia magna		
	Acute bacteria toxicity	(>1000 mg/l)	3 h			

#### 12.2. Persistence and degradability

No existen más datos relevantes disponibles.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
41637-38-1	Bisphenol A epoxyate dimethacrylate			
	OECD Richtlinie 301 D	24%	28	
	Not easily biodegradable. Potentially bioaccumulative.			

#### 12.3. Bioaccumulative potential

No existen más datos relevantes disponibles.

##### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
1565-94-2	Bisphenol-A-bis-(2-hydroxypropyl)methacrylate	4,63
41637-38-1	Bisphenol A epoxyate dimethacrylate	5,3-5,62
109-16-0	Triethylene glycol dimethacrylate	2,3
21245-02-3	2-Ethylhexyl-p-dimethylaminobenzoate	>6,2



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**C-Bond**

Revision date: 14.03.2017

Product code: CBondES

Page 9 of 10

**12.4. Mobility in soil**

No existen más datos relevantes disponibles.

**12.5. Results of PBT and vPvB assessment**

·PBT: No aplicable.  
 mPmB: No aplicable.

**12.7. Other adverse effects**

No existen más datos relevantes disponibles.

**Further information**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

**List of Wastes Code - residues/unused products**

200139 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); Plastics

**List of Wastes Code - used product**

200139 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); Plastics

**List of Wastes Code - contaminated packaging**

200139 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); Plastics

**Contaminated packaging**

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information****Land transport (ADR/RID)**

**14.1. UN number:** No dangerous good in sense of this transport regulation.  
**14.2. UN proper shipping name:** No dangerous good in sense of this transport regulation.  
**14.3. Transport hazard class(es):** No dangerous good in sense of this transport regulation.  
**14.4. Packing group:** No dangerous good in sense of this transport regulation.

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

No dangerous good in sense of this transport regulation.

**14.7. Maritime transport in bulk according to IMO instruments**

No dangerous good in sense of this transport regulation.

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**C-Bond**

Revision date: 14.03.2017

Product code: CBondES

Page 10 of 10

Restrictions on use (REACH, annex XVII):

Entry 3

2010/75/EU (VOC): 46,273 % (555,276 g/l)

2004/42/EC (VOC): 16,302 % (195,624 g/l)

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 3 - highly hazardous to water

Skin resorption/Sensitization: Causes allergic hypersensitivity reactions.

**Additional information**

El producto es un producto sanitario de acuerdo a la directiva de la CE 93/42.

**15.2. Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 2,3,4,6,11,13,15.

**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

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

**Relevant H and EUH statements (number and full text)**

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H360	May damage fertility or the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

**Further Information**

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*