

according to Regulation (EC) No 1907/2006

**smartbond®**

Revision date: 31.10.2019

Product code: 10571.3

Page 1 of 10

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

smartbond®

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

Ligth curing repair material for use in dentistry.

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

Company name: DETAX GmbH & Co. KG  
Street: Carl-Zeiss-Strasse  
Place: D-76275 Ettlingen  
Telephone: +49 7243/510-0  
e-mail: post@detax.de  
Internet: www.detax.de  
Responsible Department: Emergency number:  
+49 7243/510-0  
This number is only obtainable during office hours (Monday - Thursday 8.00 a.m. - 5.00 p.m., Friday 8.00 a.m. - 4.00 p.m.)

Telefax: +49 7243/510-100

**Importer / Distributer**

Company name: Ivoclar Vivadent Pty Ltd  
Place: 1-5 Overseas Drive Noble Park North VIC 3174  
Telephone: +61 3 9795 9599  
e-mail: info@ivoclarvivadent.com

Telefax: Fax: +61 3 9795 9645

**1.4. Emergency telephone number:**

13 11 26  
Poisons Hotline (24 hours / 7 days)

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

Hazard categories:  
Flammable liquid: Flam. Liq. 2  
Skin corrosion/irritation: Skin Irrit. 2  
Serious eye damage/eye irritation: Eye Irrit. 2  
Respiratory or skin sensitisation: Skin Sens. 1A  
Specific target organ toxicity - single exposure: STOT SE 3  
Hazardous to the aquatic environment: Aquatic Chronic 3  
Hazard Statements:  
Highly flammable liquid and vapour.  
Causes skin irritation.  
Causes serious eye irritation.  
May cause an allergic skin reaction.  
May cause respiratory irritation.  
Harmful to aquatic life with long lasting effects.

**2.2. Label elements****Regulation (EC) No. 1272/2008**

according to Regulation (EC) No 1907/2006

**smartbond®**

Revision date: 31.10.2019

Product code: 10571.3

Page 2 of 10

**Hazard components for labelling**

"methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"  
acrylic acid derivatives  
vinylester resin  
diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide

**Signal word:** Danger**Pictograms:****Hazard statements**

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

**Precautionary statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P235	Keep cool.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P501	Dispose of contents/ container in accordance with local and national regulations.

**Additional advice on labelling**

According to Regulation (EC) 1272/2008, art.1 No. 5 (d) this product as a medical product must not be labelled!

**2.3. Other hazards**

No information available.

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

Mixture of acrylic/ methacrylic resins with auxilliary matters.

according to Regulation (EC) No 1907/2006

**smartbond®**

Revision date: 31.10.2019

Product code: 10571.3

Page 3 of 10

### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	GHS Classification			
80-62-6	"methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"			20 - 70 %
	201-297-1	607-035-00-6		
	Flam. Liq. 2, Skin Irrit. 2, Skin Sens. 1, STOT SE 3; H225 H315 H317 H335			
	acrylic acid derivates			25 - 50 %
	Eye Irrit. 2, Skin Sens. 1A, Aquatic Chronic 3; H319 H317 H412			
	aliphatic polyestertriurethane triacrylate			5 - 20 %
	Skin Irrit. 2, Eye Irrit. 2; H315 H319			
55818-57-0	vinylester resin			1 - < 5 %
			01-2119490020-53	
	Skin Sens. 1; H317			
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide			0,1 - 5 %
	278-355-8	015-203-00-X		
	Repr. 2, Skin Sens. 1B, Aquatic Chronic 2; H361f H317 H411			

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### After inhalation

Provide fresh air. Medical treatment necessary.

#### 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

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

#### After ingestion

Rinse mouth immediately and drink plenty of water.

Seek immediately medical advice. Do not induce vomiting. In case of spontaneous vomiting take care of an unhindered flow out of the vomit (danger of suffocation).

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

No information available.

### 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

Water spray jet, Carbon dioxide (CO<sub>2</sub>), Foam, Extinguishing powder.

according to Regulation (EC) No 1907/2006

**smartbond®**

Revision date: 31.10.2019

Product code: 10571.3

Page 4 of 10

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

Highly flammable. Vapours can form explosive mixtures with air.

**5.3. Advice for firefighters**

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

**Additional information**

Use water spray jet to protect personnel and to cool endangered containers. 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**

Remove all sources of ignition. 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 uncontrolled discharge of product into the environment. Danger of explosion

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

Absorb with liquid-binding material (e.g. 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**

Keep away from sources of ignition. - No smoking. Take precautionary measures against static discharges. Vapours can form explosive mixtures with air.

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

Keep container tightly closed. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Hints on joint storage**

Do not store together with: Oxidising agent. Pyrophoric or self-heating substances.

**Further information on storage conditions**

Keep only in the original container in a cool, dry and well-ventilated place, away from foodstuffs. Keep away from all kind of light. An inert gas blanket should not be applied, because the stability of the product depends on the presence of oxygen (air).

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

Adhesive for repair of dental restorations like prosthesis, crowns or bridges  
For use by trained specialist staff.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

according to Regulation (EC) No 1907/2006

**smartbond®**

Revision date: 31.10.2019

Product code: 10571.3

Page 5 of 10

### Exposure limits (EH40)

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
80-62-6	Methyl methacrylate	50	208		TWA (8 h)	WEL
		100	416		STEL (15 min)	WEL

### 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.

Suitable are gloves of the following material: Butyl caoutchouc (butyl rubber)

#### Skin protection

Flame-retardant protective clothing. Wear anti-static footwear and 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:	liquid
Colour:	light yellow
Odour:	faintly like esters

#### Test method

pH-Value: not determined

#### Changes in the physical state

Melting point: not determined

Initial boiling point and boiling range: 92 °C DIN 51356

Flash point: 12 °C DIN 51755

#### Flammability

Solid: not applicable

Gas: not applicable

Lower explosion limits: 2 vol. %

Upper explosion limits: 12 vol. %

Ignition temperature: >400 °C DIN 51794

#### Auto-ignition temperature

Solid: not applicable

Gas: not applicable

according to Regulation (EC) No 1907/2006

### smartbond®

Revision date: 31.10.2019

Product code: 10571.3

Page 6 of 10

Decomposition temperature:	>100 °C
<b>Oxidizing properties</b>	
Not oxidizing.	
Vapour pressure: (at 20 °C)	40 hPa
Vapour pressure: (at 50 °C)	160 hPa
Density (at 20 °C):	1,07 g/cm <sup>3</sup> DIN 51757
Water solubility: (at 20 °C)	16 g/L
<b>Solubility in other solvents</b>	
not determined	
Partition coefficient:	not determined
Vapour density:	not determined
Evaporation rate:	not determined

#### **9.2. Other information**

Solid content:	not determined
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### **SECTION 10: Stability and reactivity**

#### **10.1. Reactivity**

Highly flammable.

#### **10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

#### **10.3. Possibility of hazardous reactions**

Reacts with : oxidising agents, radicals forming substances or heavy metal ions.

#### **10.4. Conditions to avoid**

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames. Vapours can form explosive mixtures with air.

Ultra-violet light and daylight initiate polymerisation of the product. Therefore keep only in tightly closed containers away from any sources of light. Keep in a refrigerator at 2°C - 12°C / 36°F - 54 °F.

#### **10.5. Incompatible materials**

No information available.

#### **10.6. Hazardous decomposition products**

In case of fire, acrid acrylic fumes may occur.

### **SECTION 11: Toxicological information**

#### **11.1. Information on toxicological effects**

##### **Acute toxicity**

Based on available data, the classification criteria are not met.

according to Regulation (EC) No 1907/2006

**smartbond®**

Revision date: 31.10.2019

Product code: 10571.3

Page 7 of 10

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
80-62-6	"methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"				
	oral	LD50 mg/kg	7870	Rat	
	dermal	LD50 mg/kg	>5000	Rabbit	
	inhalation (4 h) vapour	LC50	78 mg/l	Rat	
	acrylic acid derivatives				
	oral	LD50 mg/kg	2000	Rat	OECD 423
	dermal	LD50 mg/kg	2000	Rabbit	OECD 402
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide				
	oral	LD50 mg/kg	>5000	Rat	
	dermal	LD50 mg/kg	>2000	Rat	

### Irritation and corrosivity

Causes skin irritation.

Causes serious eye irritation.

### Sensitising effects

May cause an allergic skin reaction. ("methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"; acrylic acid derivatives; vinylester resin; diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide)

### Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

### STOT-single exposure

May cause respiratory irritation. ("methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA")

### STOT-repeated exposure

Based on available data, the classification criteria are not met.

### Aspiration hazard

Based on available data, the classification criteria are not met.

### Additional information on tests

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

## SECTION 12: Ecological information

### 12.1. Toxicity

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

according to Regulation (EC) No 1907/2006

**smartbond®**

Revision date: 31.10.2019

Product code: 10571.3

Page 8 of 10

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
80-62-6	"methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate; methyl methacrylate, MMA"					
	Acute fish toxicity	LC50 mg/l	>100	96 h		
	acrylic acid derivatives					
	Algae toxicity	NOEC	10 mg/l	72 d	Pseudokirchneriella subcapitata	OECD 201
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide					
	Acute algae toxicity	ErC50 mg/l	>2,01	72 h	Scenedesmus subspicatus	
	Acute crustacea toxicity	EC50 mg/l	3,53	48 h	Daphnia magna (Big water flea)	
	Acute bacteria toxicity	(>1000 mg/l)		3 h	Activated sludge	

### 12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide			
		0-10%	28	
	Not readily biodegradable (according to OECD criteria)			

### 12.3. Bioaccumulative potential

The product has not been tested.

#### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	3,1

#### BCF

CAS No	Chemical name	BCF	Species	Source
75980-60-8	diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	47-55	Cyprinus carpio (Common Carp)	

### 12.4. Mobility in soil

The product has not been tested.

### 12.5. Results of PBT and vPvB assessment

Not identified as PBT/ vPvB substances

### 12.6. Other adverse effects

No information available.

#### 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.

#### Contaminated packaging

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



according to Regulation (EC) No 1907/2006

**smartbond®**

Revision date: 31.10.2019

Product code: 10571.3

Page 9 of 10

substance itself.

### SECTION 14: Transport information

#### Land transport (ADR/RID)

<b>14.1. UN number:</b>	UN 1866
<b>14.2. UN proper shipping name:</b>	Resin solution
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	II
Hazard label:	3
Classification code:	F1
Limited quantity:	5 L/ 30kg
Hazard No:	33
Tunnel restriction code:	D/E

#### Other applicable information (land transport)

Flammable liquid

#### Marine transport (IMDG)

<b>14.1. UN number:</b>	UN 1866
<b>14.2. UN proper shipping name:</b>	Resin solution
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	II
Hazard label:	3
Marine pollutant:	-
Special Provisions:	-
Limited quantity:	5L/ 30kg
EmS:	F-E, S-E

#### Other applicable information (marine transport)

Flash point: 12°C c.c.

#### Air transport (ICAO-TI/IATA-DGR)

<b>14.1. UN number:</b>	UN 1866
<b>14.2. UN proper shipping name:</b>	Resin solution
<b>14.3. Transport hazard class(es):</b>	3
<b>14.4. Packing group:</b>	II
Hazard label:	3
Limited quantity Passenger:	1 L/ 30 kg
Passenger LQ:	Y341
IATA-packing instructions - Passenger:	353
IATA-max. quantity - Passenger:	5 L
IATA-packing instructions - Cargo:	364
IATA-max. quantity - Cargo:	60 L

#### 14.6. Special precautions for user

Warning: Combustible liquid.

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

##### National regulatory information

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

**smartbond®**

Revision date: 31.10.2019

Product code: 10571.3

Page 10 of 10

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	2 - obviously hazardous to water
Skin resorption/Sensitization:	Causes allergic hypersensitivity reactions.

### **15.2. Chemical safety assessment**

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

## **SECTION 16: Other information**

### **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)**

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H361f	Suspected of damaging fertility.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful 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.)*