

**Safety Data Sheet**  
in accordance with HSNO

Printing date 06.12.2019



Version number 1

Revision: 06.12.2019

**1 Identification of the substance or mixture and of the supplier**

- **Product identifier**
- **Trade name:** ***IvoBase CAD Bond Monomer / IvoBase CAD Bond Modelling Liquid***
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** *Manufacture of dental prosthesis*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Ivoclar Vivadent AG  
Bendererstrasse 2  
9494 Schaan  
PRINCIPALITY OF LIECHTENSTEIN  
Tel: +423 235 35 35 / Fax: +423 235 33 60
- **Importer:**  
Ivoclar Vivadent Ltd  
12 Omega St, Rosedale, Auckland  
New Zealand  
Tel: + 64 9 914 9999 / Fax: + 64 9 914 9990
- **Further information obtainable from:**  
Regulatory Affairs  
sds@ivoclarvivadent.com
- **Emergency telephone number:** 0800 764 766 (National Poison Centre - 24 hours / 7 days)

**2 Hazards identification**

- **Classification of the substance or mixture**  
*Flam. Liq. 2 H225 Highly flammable liquid and vapour.*  
*Skin Irrit. 2 H315 Causes skin irritation.*  
*Skin Sens. 1 H317 May cause an allergic skin reaction.*  
*STOT SE 3 H335 May cause respiratory irritation.*
- **Label elements**
- **GHS label elements**  
*The product is classified and labelled according to the Globally Harmonised System (GHS).*
- **Hazard pictograms**  

  
 GHS02    GHS07
- **Signal word** *Danger*
- **Hazard-determining components of labelling:**  
*methyl methacrylate*  
*1,4-butanediol dimethacrylate*
- **Hazard statements**  
*Highly flammable liquid and vapour.*  
*Causes skin irritation.*  
*May cause an allergic skin reaction.*  
*May cause respiratory irritation.*

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- **Precautionary statements**  
 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
 Avoid breathing dust/fume/gas/mist/vapours/spray.  
 Do not get in eyes, on skin, or on clothing.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Additional information:**  
 Commercial medical gloves do not provide protection against the sensitizing effect of methacrylates.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/Information on ingredients

- **Chemical characterisation: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 80-62-6	methyl methacrylate	50-100%
EINECS: 201-297-1	Flam. Liq. 2, H225; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335	
CAS: 2082-81-7	1,4-butanediol dimethacrylate	2.5-10%
EINECS: 218-218-1	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.

### 4 First aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**  
 Supply fresh air; consult doctor in case of complaints.  
 In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:**  
 Immediately rinse with water.  
 If skin irritation continues, consult a doctor.
- **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.  
 Do not induce vomiting; call for medical help immediately.
- **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>, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.

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- **Advice for firefighters**
- **Protective equipment:** No special measures required.
- **Additional information** Cool endangered receptacles with water spray.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Only adequately trained personnel should handle this product.  
Ensure good ventilation/exhaustion at the workplace.  
For use in dentistry only.
- **Information about fire - and explosion protection:**  
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:**  
Store in a cool location.  
Store only in the original receptacle.
- **Information about storage in one common storage facility:** Store away from oxidising agents.
- **Further information about storage conditions:**  
Keep container tightly sealed.  
Store receptacle in a well ventilated area.  
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

**CAS: 80-62-6 methyl methacrylate**

WES	Short-term value: 416 mg/m <sup>3</sup> , 100 ppm
	Long-term value: 208 mg/m <sup>3</sup> , 50 ppm
	skin

- **Additional information:** The lists valid during the making were used as basis.

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- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

*Usual hygienic measures for dental practice and dental laboratories.*

*Keep away from foodstuffs, beverages and feed.*

*Immediately remove all soiled and contaminated clothing*

*Wash hands before breaks and at the end of work.*

*Avoid contact with the eyes and skin.*

*Do not inhale gases / fumes / aerosols.*

- **Respiratory protection:**

*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.*

- **Recommended filter device for short term use:**

*Filter A1*

*Filter A2*

*Filter A3*

- **Protection of hands:**



*Protective gloves*

*After use of gloves apply skin-cleaning agents and skin cosmetics.*

- **Material of gloves**

*Butyl rubber, BR*

*Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*

- **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.*

- **Not suitable are gloves made of the following materials:**

*Commercial medical gloves do not provide protection against the sensitizing effect of methacrylates.*

- **Eye protection:**



*Tightly sealed goggles*

### 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

**Form:** Fluid

**Colour:** Colourless

- **Odour:** Pungent

- **Odour threshold:** Not determined.

- **pH-value:** Not determined.

- **Change in condition**

**Melting point/freezing point:** -48 °C

**Initial boiling point and boiling range:** 101 °C

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· <b>Flash point:</b>	10 °C
· <b>Ignition temperature:</b>	430 °C
· <b>Auto-ignition temperature:</b>	Product is not selfigniting.
· <b>Explosive properties:</b>	Product is not explosive. However, formation of explosive air/ vapour mixtures are possible.
· <b>Explosion limits:</b>	
Lower:	2.1 Vol %
Upper:	12.5 Vol %
· <b>Vapour pressure at 20 °C:</b>	47 hPa
· <b>Density at 20 °C:</b>	0.943 g/cm <sup>3</sup>
· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with water at 20 °C:</b>	1.6 g/l
· <b>Partition coefficient: n-octanol/water:</b>	Not determined.
· <b>Viscosity:</b>	
Dynamic:	Not determined.
Kinematic:	Not determined.
· <b>Other information</b>	No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability** Stable under normal handling and storage conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions**  
Forms explosive gas mixture with air.  
Reacts with strong oxidising agents.  
Exothermic polymerisation.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** None under normal conditions of storage and use.

### 11 Toxicological information

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

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

CAS: 80-62-6 methyl methacrylate

Oral	LD50	7872 mg/kg (rat)
------	------	------------------

- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.

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· **Additional toxicological information:** No further relevant information available.


### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow product to reach ground water, water course or sewage system.
- **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 together with household garbage. Do not allow product to reach sewage system.  
Take to an approved landfill or a waste incineration plant, under conditions approved by the local authority.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- |   |  |
|---|--|
| · <b>UN-Number</b>  | UN1247   |
| · <b>ADR/RID/ADN, IMDG, IATA</b>  |  |
| · <b>UN proper shipping name</b>  | 1247 METHYL METHACRYLATE MONOMER,<br>STABILIZED solution |
| · <b>ADR/RID/ADN</b>  |  |
| · <b>IMDG, IATA</b>   | METHYL METHACRYLATE MONOMER,<br>STABILIZED solution      |
| · <b>Transport hazard class(es)</b>   |  |
| · <b>ADR/RID/ADN</b>  |  |
|  |  |
| · <b>Class</b>  | 3 (F1) Flammable liquids.                                |

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· <b>Label</b>	3
· <b>IMDG, IATA</b>	
	
· <b>Class</b>	3 Flammable liquids.
· <b>Label</b>	3
· <b>Packing group</b>	
· <b>ADR/RID/ADN, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Warning: Flammable liquids.
· <b>Danger code (Kemler):</b>	339
· <b>EMS Number:</b>	F-E,S-D
· <b>Stowage Category</b>	B
· <b>Stowage Code</b>	SW2 Clear of living quarters.
· <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>	
Not applicable.	
· <b>Transport/Additional information:</b>	
· <b>ADR/RID/ADN</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b>	2
· <b>Tunnel restriction code</b>	D/E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	1L
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>UN "Model Regulation":</b>	UN 1247 METHYL METHACRYLATE MONOMER, STABILIZED SOLUTION, 3, II

### 15 Regulatory information

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

· **New Zealand Inventory of Chemicals**

All ingredients are listed.

· **HSNO Approval numbers**

CAS: 80-62-6	methyl methacrylate	HSR001195
CAS: 2082-81-7	1,4-butanediol dimethacrylate	HSR003839

· **GHS label elements**

The product is classified and labelled according to the Globally Harmonised System (GHS).

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· **Hazard pictograms**



GHS02 GHS07

· **Signal word** *Danger*

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

*methyl methacrylate  
1,4-butanediol dimethacrylate*

· **Hazard statements**

*Highly flammable liquid and vapour.  
Causes skin irritation.  
May cause an allergic skin reaction.  
May cause respiratory irritation.*

· **Precautionary statements**

*Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
Do not get in eyes, on skin, or on clothing.  
Wear protective gloves/protective clothing/eye protection/face protection.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** *None of the ingredients is listed.*

· **Seveso category** *P5c FLAMMABLE LIQUIDS*

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** *5000 t*

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** *50000 t*

· **National regulations:**

· **Other regulations, limitations and prohibitive regulations**

*The product is a medical device according to the Directive 93/42/EEC.*

· **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

### 16 Other information

*This information is based on our present knowledge. However, this 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.*

*H315 Causes skin irritation.*

*H317 May cause an allergic skin reaction.*

*H319 Causes serious eye irritation.*

*H335 May cause respiratory irritation.*

· **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*

*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)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*vPvB: very Persistent and very Bioaccumulative*

*Flam. Liq. 2: Flammable liquids – Category 2*

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*Skin Irrit. 2: Skin corrosion/irritation – Category 2*  
*Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A*  
*Skin Sens. 1: Skin sensitisation – Category 1*  
*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

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