SECTION 1: Identification of the substance/mixture and of the company/undertaking

· 1.1 Product identifier
  Trade name: IvoBase Hybrid Monomer / IvoBase High Impact Monomer

· 1.2 Relevant identified uses of the substance or mixture and uses advised against
  No further relevant information available.

· Application of the substance / the mixture Denture base material

· 1.3 Details of the supplier of the safety data sheet
  Manufacturer/Supplier:
  Ivoclar Vivadent AG
  Bendererstrasse 2
  FL-9494 Schaan
  PRINCIPALITY OF LIECHTENSTEIN

  Tel: +423 235 35 35
  Fax: +423 235 33 60

· Further information obtainable from:
  Regulatory Affairs
  sds@ivoclarvivadent.com

· 1.4 Emergency telephone number: +423 / 235 33 13 (Ivoclar Vivadent AG, FL-9494 Schaan, Liechtenstein)

SECTION 2: Hazards identification

· 2.1 Classification of the substance or mixture
  Classification according to Regulation (EC) No 1272/2008
  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.

· 2.2 Label elements
  Labelling according to Regulation (EC) No 1272/2008
  The product is classified and labelled according to the CLP regulation.

· Hazard pictograms

  GHS02  GHS07

· Signal word Danger

· Hazard-determining components of labelling:
  methyl methacrylate
  1,4-butanediol dimethacrylate

· Hazard statements
  H225 Highly flammable liquid and vapour.
  H315 Causes skin irritation.
  H317 May cause an allergic skin reaction.
  H335 May cause respiratory irritation.

· Precautionary statements
  P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
  P262 Do not get in eyes, on skin, or on clothing.

(Contd. on page 2)
**Trade name:** IvoBase Hybrid Monomer / IvoBase High Impact Monomer

(Contd. of page 1)

P280  Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P501  Dispose of contents/container in accordance with local/regional/national/international regulations.

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

**SECTION 3: Composition/information on ingredients**

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

<table>
<thead>
<tr>
<th>CAS: 80-62-6</th>
<th>50-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>methyl methacrylate</td>
<td></td>
</tr>
<tr>
<td>Flam. Liq. 2; H225; Skin Irrit. 2; H313; Skin Sens. 1; H317; STOT SE 3; H335</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS: 2082-81-7</th>
<th>3-&lt;10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,4-butanediol dimethacrylate</td>
<td></td>
</tr>
<tr>
<td>Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335</td>
<td></td>
</tr>
</tbody>
</table>

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

**SECTION 4: First aid measures**

- **4.1 Description of first aid measures**
  - **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.
  - **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.

- **4.2 Most important symptoms and effects, both acute and delayed**
  - No further relevant information available.

- **4.3 Indication of any immediate medical attention and special treatment needed**
  - No further relevant information available.

**SECTION 5: Firefighting measures**

- **5.1 Extinguishing media**
  - **Suitable extinguishing agents:**
    - CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
  - **For safety reasons unsuitable extinguishing agents:**
    - Water with full jet

- **5.2 Special hazards arising from the substance or mixture**
  - No further relevant information available.

- **5.3 Advice for firefighters**
  - **Protective equipment:** No special measures required.

- **Additional information**
  - Cool endangered receptacles with water spray.

(Contd. on page 3)
SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures
  Wear protective equipment. Keep unprotected persons away.
- 6.2 Environmental precautions: Do not allow to enter sewers/surface or ground water.
- 6.3 Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Ensure adequate ventilation.
- 6.4 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.

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling
  Only adequately trained personnel should handle this product.
  Ensure good ventilation/exhaustion at the workplace.
- Information about fire - and explosion protection:
  Keep ignition sources away - Do not smoke.
  Protect against electrostatic charges.
- 7.2 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.
- 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

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

- 8.1 Control parameters
  - Ingredients with limit values that require monitoring at the workplace:
    80-62-6 methyl methacrylate
    WEL Short-term value: 416 mg/m³, 100 ppm
    Long-term value: 208 mg/m³, 50 ppm
    - Additional information: The lists valid during the making were used as basis.
  - 8.2 Exposure controls
    - General protective and hygienic measures:
      Usual hygienic measures for dental practice.
      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:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

**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:**

**SECTION 9: Physical and chemical properties**

**General Information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Fluid</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>Pungent</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not determined.</td>
</tr>
<tr>
<td>pH-value</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

**Change in condition**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point/Melting range</td>
<td>-48 °C</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>101 °C</td>
</tr>
</tbody>
</table>

**Flash point:**

10 °C

**Ignition temperature:**

430 °C

**Self-igniting:**

Product is not selfigniting.

**Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
**Section 10: Stability and reactivity**

- **10.1 Reactivity**: No further relevant information available.
- **10.2 Chemical stability**: Stable under normal handling and storage conditions.
- **10.3 Possibility of hazardous reactions**
  Forms explosive gas mixture with air.
  Reacts with strong oxidising agents.
  Exothermic polymerisation.
- **10.4 Conditions to avoid**: No further relevant information available.
- **10.5 Incompatible materials**: No further relevant information available.
- **10.6 Hazardous decomposition products**: None under normal conditions of storage and use.

**Section 11: Toxicological information**

- **11.1 Information on toxicological effects**
- **Acute toxicity**:
  - **LD/LC50 values relevant for classification**:
    - 80-62-6 methyl methacrylate
      - Oral [LD\textsubscript{50}] 7872 mg/kg (rat)
    - **Primary irritant effect**:
      - **on the skin**: Irritant to skin and mucous membranes.
      - **on the eye**: No irritating effect.
      - **Sensitisation**: Sensitisation possible through skin contact.
      - **Additional toxicological information**: No further relevant information available.

**Section 12: Ecological information**

- **12.1 Toxicity**: No further relevant information available.
- **Aquatic toxicity**: No further relevant information available.
- **12.2 Persistence and degradability**: No further relevant information available.
- **12.3 Bioaccumulative potential**: No further relevant information available.
### 12.4 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.**

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

### 12.6 Other adverse effects
No further relevant information available.

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### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
  - **Recommendation:** Take to an approved landfill or a waste incineration plant, under conditions approved by the local authority.

  **European waste catalogue**
  - 18 01 06* chemicals consisting of or containing dangerous substances

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

---

### SECTION 14: Transport information

- **14.1 UN-Number**
  - ADR, IMDG, IATA: UN1247

- **14.2 UN proper shipping name**
  - ADR: 1247 METHYL METHACRYLATE MONOMER, STABILIZED
  - IMDG, IATA: METHYL METHACRYLATE MONOMER, STABILIZED

- **14.3 Transport hazard class(es)**
  - ADR
    - Class: 3 (F1) Flammable liquids.
    - Label: 3
  - IMDG, IATA
    - Class: 3 Flammable liquids.
    - Label: 3

- **14.4 Packing group**
  - ADR, IMDG, IATA: II

- **14.5 Environmental hazards:**
  - **Marine pollutant:** No

---

*(Contd. on page 7)*
14.6 Special precautions for user

Warning: Flammable liquids.

EMS Number: F-E,S-D

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional information:

---

ADR

Limited quantities (LQ) 1L

Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

Transport category 2

Tunnel restriction code D/E

IMDG

Limited quantities (LQ) 1L

Excepted quantities (EQ) Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation": UN1247, METHYL METHACRYLATE MONOMER, STABILIZED, 3, II

SECTION 15: Regulatory information

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

National regulations:

Other regulations, limitations and prohibitive regulations

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

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

SECTION 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
GHS: Globally Harmonised 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 (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

(Contd. on page 8)
Tradename: IvoBase Hybrid Monomer / IvoBase High Impact Monomer

Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

* Data compared to the previous version altered.