1 Identification

- **Product identifier**
  - Trade name: *IvoBase Hybrid Monomer / IvoBase High Impact Monomer*
- **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
- **Details of the supplier of the safety data sheet**
  - Manufacturer/Supplier:
    - Ivoclar Vivadent Inc.
    - 175 Pineview Drive, Amherst, N.Y. 14228
    - USA
    - Tel. +1 800 533 6825
    - Fax +1 716 691 2285
  - Ivoclar Vivadent Inc.
    - 1-6600 Dixie Road
    - Mississauga, Ontario
    - L5T 2Y2
    - Canada
    - Phone: +1 905 670 8499
    - Fax: +1 905 670 3102
- **Information department:** Quality Assurance / Regulatory Affairs
- **Emergency telephone number:**
  - 24 Hour Emergency Assistance:
    - Emergency-Call USA - Infotrac: 1-800-535-5053
    - Emergency-Call Canada - Canutec: 1-613-996-6666
  - General SDS Assistance:
    - US: 1-800-533-6825
    - Canada: 1-800-263-8182

2 Hazard(s) identification

- **Classification of the substance or mixture**
  - Flam. Liq. 2 H225 Highly flammable liquid and vapor.
  - 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 labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**
  - GHS02
  - GHS07
- **Signal word** Danger
- **Hazard-determining components of labeling:**
  - methyl methacrylate
  - 1,4-butanediol dimethacrylate

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

- **Hazard statements**
  - Highly flammable liquid and vapor.
  - 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/vapors/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.

- **Classification system:**
  - NFPA ratings (scale 0 - 4)
    - Health = 2
    - Fire = 3
    - Reactivity = 2
  - HMIS-ratings (scale 0 - 4)
    - HEALTH
      - Health = 2
    - FIRE
      - Fire = 3
    - REACTIVITY
      - Reactivity = 2

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

### 3 Composition/information on ingredients

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

- **Dangerous components:**
  - 80-62-6 methyl methacrylate 50-100%
  - 2082-81-7 1,4-butanediol dimethacrylate 2.5-<10%

### 4 First-aid measures

- **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; immediately call for medical help.
- **Information for doctor:**
  - **Most important symptoms and effects, both acute and delayed** No further relevant information available.
40.1.5 · 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 No further relevant information available.

· 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.
  · 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:
    Store in a cool location.
    Store only in the original receptacle.
  · Information about storage in one common storage facility: Store away from oxidizing agents.
  · Further information about storage conditions:
    Keep receptacle 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 systems: No further data; see item 7.
**Trade name:** IvoBase Hybrid Monomer / IvoBase High Impact Monomer

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### Control parameters

**Components with limit values that require monitoring at the workplace:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Long-term value</th>
<th>Short-term value</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-62-6 methyl methacrylate</td>
<td>410 mg/m³, 100 ppm</td>
<td>205 mg/m³, 50 ppm</td>
</tr>
</tbody>
</table>

**Additional information:** The lists that were valid during the creation were used as basis.

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### Exposure controls

**Personal protective equipment:**

**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.

**Breathing equipment:**
- In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

**Recommended filter device for short term use:**
- Filter A1
- Filter A2
- Filter A3

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### Protection of hands:

**Protective gloves**

The glove material has to be impermeable and resistant to the product/substance/preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

**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 breakthrough 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**

- **Appearance:**
  - Form: Fluid
  - Color: Colorless
  - Odor: Pungent
  - Odour threshold: Not determined.
- **pH-value:** Not determined.
- **Change in condition**
  - Melting point/Melting range: -48 °C (-54 °F)
  - Boiling point/Boiling range: 101 °C (214 °F)
- **Flash point:** 10 °C (50 °F)
- **Ignition temperature:** 430 °C (806 °F)
- **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: 2.1 Vol %, Upper: 12.5 Vol %
  - Vapor pressure at 20 °C (68 °F): 47 hPa (35 mm Hg)
  - Density at 20 °C (68 °F): 0.943 g/cm³ (7.869 lbs/gal)
  - Relative density: Not determined.
  - Vapour density: Not determined.
  - Evaporation rate: Not determined.
- **Solubility in / Miscibility with**
  - Water at 20 °C (68 °F): 1.6 g/l
  - Partition coefficient (n-octanol/water): Not determined.
- **Viscosity**
  - Dynamic: Not determined.
  - Kinematic: Not determined.
  - Other information: 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 oxidizing agents.
  - Exothermic polymerization.
- **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 that are relevant for classification:
      - 80-62-6 methyl methacrylate
        - Oral LD50 7872 mg/kg (rat)
  - Primary irritant effect:
    - on the skin: Irritant to skin and mucous membranes.
    - on the eye: No irritating effect.
    - Sensitization: Sensitization possible through skin contact.
  - Sensitization possible through skin contact.
  - Additional toxicological information: No further relevant information available.

- Carcinogenic categories
  - IARC (International Agency for Research on Cancer)
    - 80-62-6 methyl methacrylate 3
  - NTP (National Toxicology Program)
    - None of the ingredients is listed.
  - OSHA-Ca (Occupational Safety & Health Administration)
    - None of the ingredients is listed.

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
  - Behavior 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 (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:
    - Take to an approved landfill or a waste incineration plant, under conditions approved by the local authority.
- Uncleaned packagings
  - Recommendation: Disposal must be made according to official regulations.
**14 Transport information**

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

- **UN proper shipping name**
  - DOT: Methyl methacrylate monomer, stabilized
  - ADR: 1247 Methyl methacrylate monomer, stabilized
  - IMDG, IATA: METHYL METHACRYLATE MONOMER, STABILIZED

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

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

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

- **Special precautions for user**
  - Warning: Flammable liquids
  - Danger code (Kemler): 339
  - EMS Number: F-E,S-D

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
  - Not applicable.

- **Transport/Additional information:**
  - **ADR**
    - Excepted quantities (EQ)
      - Code: E2
      - Maximum net quantity per inner packaging: 30 ml
  - **IMDG**
    - Limited quantities (LQ)
      - 1L

(Contd. on page 8)
Safety Data Sheet
acc. to OSHA HCS

Printing date 05/21/2015
Reviewed on 03/12/2015
Version number 2

Trade name: IvoBase Hybrid Monomer / IvoBase High Impact Monomer

(Contd. of page 7)

- **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

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Sara**
    - Section 355 (extremely hazardous substances):
      - None of the ingredients is listed.
    - Section 313 (Specific toxic chemical listings):
      - 80-62-6 methyl methacrylate
  - **TSCA (Toxic Substances Control Act):**
    - All ingredients are listed.
  - **Proposition 65**
    - Chemicals known to cause cancer:
      - None of the ingredients is listed.
    - Chemicals known to cause reproductive toxicity for females:
      - None of the ingredients is listed.
    - Chemicals known to cause reproductive toxicity for males:
      - None of the ingredients is listed.
    - Chemicals known to cause developmental toxicity:
      - None of the ingredients is listed.

- **Carcinogenic categories**
  - **EPA (Environmental Protection Agency)**
    - 80-62-6 methyl methacrylate
      - NL
  - **TLV (Threshold Limit Value established by ACGIH)**
    - 80-62-6 methyl methacrylate
      - A4
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
    - None of the ingredients is listed.

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

- **Hazard pictograms**

  GHS02  GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**
  - methyl methacrylate
  - 1,4-butanediol dimethacrylate

- **Hazard statements**
  - Highly flammable liquid and vapor.

(Contd. on page 9)
40.1.5 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/vapors/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.

- **National regulations:**
- Other regulations, limitations and prohibitive regulations
  - The product is a medical device according to the Directive 93/42/EEC.
  - This product is classified as a medical device under US and Canadian regulations and has been reviewed by the US Food and Drug Administration and Health Canada.

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

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**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.

- **Date of preparation / last revision** 05/21/2015 / 1

- **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
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - 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)
  - HMIS: Hazardous Materials Identification System (USA)
  - 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
  - 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.*