1 Identification

- **Product identifier**
  - **Trade name:** SR Ivocap 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
  - ethylene glycol dimethacrylate

(Contd. on page 2)
Material Safety Data Sheet
acc. to ISO 11014

Printing date 05/21/2015
Reviewed on 03/12/2015
Version number 4

Trade name: SR Ivocap High Impact Monomer

(Contd. of page 1)

40.1.5

· 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.

· Hazard description:
  · WHMIS-symbols:
    B2 - Flammable liquid
    D2B - Toxic material causing other toxic effects

· 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.

· Composition/information on ingredients

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

  Dangerous components:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-62-6 methyl methacrylate</td>
<td>60-100%</td>
</tr>
<tr>
<td>97-90-5 ethylene glycol dimethacrylate</td>
<td>3-7%</td>
</tr>
</tbody>
</table>

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.

(Contd. on page 3)
40.1.5

· 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.
  · 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, 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.
· 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.
  Do not flush with water or aqueous cleansing agents
· 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 only in the original receptacle.
    Store in a cool location.
  · Information about storage in one common storage facility: Store away from oxidizing agents.
  · Further information about storage conditions:
    Store receptacle in a well ventilated area.
    Keep receptacle tightly sealed.
**8 Exposure controls/personal protection**

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

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

<table>
<thead>
<tr>
<th>Component</th>
<th>Short-term value</th>
<th>Long-term value</th>
</tr>
</thead>
<tbody>
<tr>
<td>80-62-6 methyl methacrylate</td>
<td>100 ppm</td>
<td>50 ppm</td>
</tr>
<tr>
<td>S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EY</td>
<td>100 ppm</td>
<td>50 ppm</td>
</tr>
</tbody>
</table>

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

- Exposure controls
- Personal protective equipment:
  - General protective and hygiene measures:
    Usual hygienic measures for dental practice.
    Keep away from foodstuffs, beverages and feed.
    Wash hands before breaks and at the end of work.
    Immediately remove all soiled and contaminated clothing.
    Avoid contact with the eyes and skin.
  - 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
  - Protection of hands:

  **Protective gloves**

  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
  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 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.
9 Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Fluid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</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>
<tr>
<td>Change in condition</td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range</td>
<td>-48 °C</td>
</tr>
<tr>
<td>Boiling point/Boiling range</td>
<td>101 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>10 °C</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>430 °C</td>
</tr>
<tr>
<td>Auto igniting</td>
<td>Product is not selfigniting.</td>
</tr>
<tr>
<td>Danger of explosion</td>
<td>Product is not explosive. However, formation of explosive air/vapor mixtures are possible.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>2.1 Vol %</td>
</tr>
<tr>
<td>Upper</td>
<td>12.5 Vol %</td>
</tr>
<tr>
<td>Vapor pressure at 20 °C</td>
<td>47 hPa</td>
</tr>
<tr>
<td>Density at 20 °C</td>
<td>0.943 g/cm³</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solubility in / Miscibility with Water at 20 °C</td>
<td>1.6 g/l</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>Not determined</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>Not determined</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined</td>
</tr>
<tr>
<td>Other information</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

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.
Material Safety Data Sheet
acc. to ISO 11014

Trade name: SR Ivocap High Impact Monomer

- 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.
  - 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 undiluted product or large quantities of it 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 of together with household garbage. Do not allow product to reach sewage system.

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

14 Transport information

- UN-Number
- DOT, TDG, IMDG, IATA
  UN1247

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

- Transport hazard class(es)
  - DOT
    - Class
      3 Flammable liquids
    - Label
      3
  - TDG (Transport dangerous goods):
    - Class
      3 (F1) Flammable liquids
    - Label
      3
  - IMDG, IATA
    - Class
      3 Flammable liquids
    - Label
      3

- Packing group
  - DOT, TDG, 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:

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

- **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

### 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). (Contd. on page 9)
Trade name: SR Ivocap High Impact Monomer

- **Hazard pictograms**
  
  ![GHS02](image1) ![GHS07](image2)

- **Signal word** Danger

- **Hazard-determining components of labeling:**
  - methyl methacrylate
  - ethylene glycol dimethacrylate

- **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.

- **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.

### 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 / 3

- **Abbreviations and acronyms:**
  - 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)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - WHMIS: Workplace Hazardous Materials Information System (Canada)
  - 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.