1 Identification

- Product identifier
  - Trade name: CLEARFIL SE BOND 2; PRIMER
  - Article number: CA195-P
  
- Relevant identified uses of the substance or mixture and uses advised against
  - No further relevant information available.
  
- Application of the substance / the mixture
  - Dental bonding material

2 Hazard(s) identification

- Classification of the substance or mixture
  
  GHS07

  Skin Irritation - Category 2  H315  Causes skin irritation.
  Eye Irritation - Category 2A  H319  Causes serious eye irritation.
  Skin Sensitizer - Category 1  H317  May cause an allergic skin reaction.

- Label elements
  - GHS label elements
    - The product is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms  GHS07
  - Signal word Warning

- Hazard-determining components of labeling:
  - 2-hydroxyethyl methacrylate

- Hazard statements
  - H315  Causes skin irritation.
  - H319  Causes serious eye irritation.
  - H317  May cause an allergic skin reaction.

- Precautionary statements
  - P261  Avoid breathing dust/fume/gas/mist/vapours/spray.
  - P264  Wash thoroughly after handling.
  - P272  Contaminated work clothing should not be allowed out of the workplace.
  - P280  Wear protective gloves/protective clothing/eye protection/face protection.
  - P302+P352  If on skin: Wash with plenty of water.
  - P305+P351+P338  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P321  Specific treatment (see on this label).
  - P333+P313  If skin irritation or rash occurs: Get medical advice/attention.
Trade name: CLEARFIL SE BOND 2 ; PRIMER

P337+P313 If eye irritation persists: Get medical advice/attention.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

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

<table>
<thead>
<tr>
<th>Chemical</th>
<th>% w/w</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-hydroxyethyl methacrylate</td>
<td>20-40% w/w</td>
</tr>
<tr>
<td>Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Skin Sensitizer - Category 1, H317</td>
<td></td>
</tr>
</tbody>
</table>

- **Other ingredients:**
  - 10-Methacryloyloxydecyl dihydrogen phosphate
  - Hydrophilic aliphatic dimethacrylate
  - dl-Camphorquinone
  - Water
  - Accelerators
  - Dyes

4 First-aid measures

- **Description of first aid measures**
  - **After inhalation:** Supply fresh air and to be sure call for a doctor. In case of unconsciousness place patient stably in side position for transportation.
  - **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
  - **After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - **After swallowing:** Do not induce vomiting; immediately call for medical help. If symptoms persist consult doctor.

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

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** See Section 8.
- **Environmental precautions:** Dilute with plenty of water.
7 Handling and storage

Handling:
- Precautions for safe handling
  Ensure good ventilation/exhaustion at the workplace.
  Prevent formation of aerosols.
- Information about protection against explosions and fires: No special measures required.
- Conditions for safe storage, including any incompatibilities
  Storage:
  - Requirements to be met by storerooms and receptacles: Store in a refrigerator (2-8°C).
  - Information about storage in one common storage facility: Not required.
  - Further information about storage conditions:
    Keep receptacle tightly sealed.
    Store in cool, dry conditions in well sealed receptacles.
    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.
- Control parameters
- Components with limit values that require monitoring at the workplace:
  The product does not contain any relevant quantities of materials with critical values that have to be
  monitored at the workplace.
  - Additional information: The lists that were valid during the creation were used as basis.
- Exposure controls
  Personal protective equipment:
  General protective and hygienic measures:
  Immediately remove all soiled and contaminated clothing.
  Wash hands before breaks and at the end of work.
  Avoid contact with the eyes and skin.
  - Breathing equipment: Not required.
  - 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
  The selection of the suitable gloves does not only depend on the material, but also on further marks of quality
  and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the
  resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the
Trade name: CLEARFIL SE BOND 2 ; PRIMER

(Contd. of page 3)

- 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.
- Eye protection:
  Tightly sealed goggles

9 Physical and chemical properties

- Information on basic physical and chemical properties
  - General Information
    - Appearance:
      - Form: Liquid
      - Color: Yellow
      - Odor: Odorless
    - pH-value at 20 °C: <2.5
    - Change in condition
      - Melting point/Melting range: -12 °C (2-hydroxyethyl methacrylate)
      - Boiling point/Boiling range: 205 °C (2-hydroxyethyl methacrylate)
    - Flash point: 97 °C (2-hydroxyethyl methacrylate)
    - Ignition temperature: Not determined
    - Decomposition temperature: Not determined
    - Danger of explosion: Product does not present an explosion hazard.
  - Explosion limits:
    - Lower: Not determined
    - Upper: Not determined
  - Oxidizing properties
    - Not determined
  - Vapor pressure: Not determined
  - Density at 20 °C: 1 g/cm³
  - Relative density: Not determined
  - Vapor density: Not determined
  - Evaporation rate: Not determined
  - Solubility in / Miscibility with
    - Water: Fully miscible.
  - Partition coefficient (n-octanol/water): Not determined
  - Viscosity: Not determined
  - Other information: No further relevant information available.

10 Stability and reactivity

- Reactivity
  No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided:
  No decomposition if used and stored according to specifications.
- Possibility of hazardous reactions
  No dangerous reactions known.

(Contd. on page 5)
11 Toxicological information

Information on toxicological effects

Acute toxicity:

LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>Compound</th>
<th>Oral LD50</th>
<th>2-hydroxyethyl methacrylate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mg/kg</td>
<td></td>
</tr>
<tr>
<td>guinea pig, mouse, rat</td>
<td>4680</td>
<td></td>
</tr>
<tr>
<td>3275</td>
<td>5050</td>
<td></td>
</tr>
</tbody>
</table>

Primary irritant effect:

on the skin: Irritating effect

on the eye: Irritating effect.

Sensitization: Sensitization possible through skin contact.

Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

NTP (National Toxicology Program)

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.
### 14 Transport information

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-Number</td>
<td>Void</td>
</tr>
<tr>
<td>DOT, TDG, ADN, IMDG, IATA</td>
<td>Void</td>
</tr>
<tr>
<td>UN proper shipping name</td>
<td>Void</td>
</tr>
<tr>
<td>DOT, TDG, ADN, IMDG, IATA</td>
<td>Void</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>Void</td>
</tr>
<tr>
<td>DOT, TDG, ADN, IMDG, IATA</td>
<td>Void</td>
</tr>
<tr>
<td>Class</td>
<td>Void</td>
</tr>
<tr>
<td>Packing group</td>
<td>Void</td>
</tr>
<tr>
<td>DOT, TDG, IMDG, IATA</td>
<td>Void</td>
</tr>
<tr>
<td>Environmental hazards:</td>
<td>Void</td>
</tr>
<tr>
<td>Marine pollutant:</td>
<td>No</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>UN &quot;Model Regulation&quot;:</td>
<td>Void</td>
</tr>
</tbody>
</table>

### 15 Regulatory information

<table>
<thead>
<tr>
<th>Item</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sara</td>
<td></td>
</tr>
<tr>
<td>Section 355 (extremely hazardous substances):</td>
<td>None of the ingredient is listed.</td>
</tr>
<tr>
<td>Section 313 (Specific toxic chemical listings):</td>
<td>None of the ingredients is listed.</td>
</tr>
<tr>
<td>SARA 311/312: See Section 2 for the information on physical and health hazards.</td>
<td></td>
</tr>
<tr>
<td>TSCA (Toxic Substances Control Act):</td>
<td>All ingredients are listed.</td>
</tr>
<tr>
<td>Canadian substance listings:</td>
<td></td>
</tr>
<tr>
<td>Canadian Domestic Substances List (DSL)</td>
<td>All ingredients are listed.</td>
</tr>
<tr>
<td>Canadian Ingredient Disclosure list (limit 0.1%)</td>
<td>None of the ingredients is listed.</td>
</tr>
<tr>
<td>Canadian Ingredient Disclosure list (limit 1%)</td>
<td>868-77-9 2-hydroxyethyl methacrylate</td>
</tr>
</tbody>
</table>

### 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.

* Data compared to the previous version altered.