### 1 Identification

- **Product identifier**
- **Trade name:** CLEARFIL SE BOND 2 ; BOND
- **Article number:** US195-B
- **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 Irrit. 2  H315  Causes skin irritation.
  - Eye Irrit. 2A  H319  Causes serious eye irritation.
  - Skin Sens. 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**
  - P264  Wash thoroughly after handling.
  - P272  Contaminated work clothing must 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.
  - P337+P313  If eye irritation persists: Get medical advice/attention.
**3 Composition/information on ingredients**

<table>
<thead>
<tr>
<th>Chemical characterization: Mixtures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description:</strong> Mixture of substances listed below with nonhazardous additions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dangerous components:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1565-94-2 bisphenol A diglycidylmethacrylate Skin Irrit. 2, H315; Eye Irrit. 2A, H319</td>
</tr>
<tr>
<td>868-77-9 2-hydroxyethyl methacrylate Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other ingredients:</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-Methacryloyloxydecyl dihydrogen phosphate</td>
</tr>
<tr>
<td>Hydrophobic aliphatic dimethacrylate</td>
</tr>
<tr>
<td>Colloidal silica</td>
</tr>
<tr>
<td>dl-Camphorquinone</td>
</tr>
<tr>
<td>Initiators</td>
</tr>
<tr>
<td>Accelerators</td>
</tr>
</tbody>
</table>

**4 First-aid measures**

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

<table>
<thead>
<tr>
<th>Information for doctor:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Most important symptoms and effects, both acute and delayed</strong> No further relevant information available.</td>
</tr>
<tr>
<td><strong>Indication of any immediate medical attention and special treatment needed</strong> No further relevant information available.</td>
</tr>
</tbody>
</table>

**5 Fire-fighting measures**

<table>
<thead>
<tr>
<th>Extinguishing media</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Suitable extinguishing agents:</strong> CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.</td>
</tr>
<tr>
<td><strong>Special hazards arising from the substance or mixture</strong> No further relevant information available.</td>
</tr>
<tr>
<td><strong>Advice for firefighters</strong></td>
</tr>
<tr>
<td><strong>Protective equipment:</strong> Wear self-contained respiratory protective device. Wear fully protective suit.</td>
</tr>
</tbody>
</table>

(Contd. on page 3)
6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures See Section 8.
- 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
  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:
  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.
- 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 application.

- **Penetration time of glove material**
The exact break trough 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
    - **Odor threshold:** Not determined
  - **pH-value:** Not determined

- **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

- **Density at 20 °C:** 1.14 g/cm³

- **Relative density**
  - Not determined

- **Vapor density**
  - Not determined

- **Evaporation rate**
  - Not determined

- **Solubility in / Miscibility with**
  - **Water:** Not miscible or difficult to mix.

- **Partition coefficient (n-octanol/water):** Not determined

- **Viscosity:** Not determined
Trade name: CLEARFIL SE BOND 2 ; BOND

* 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.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: Carbon monoxide and carbon dioxide

* 11 Toxicological information

- Information on toxicological effects
  - Acute toxicity:
    - LD/LC50 values that are relevant for classification:
      - 868-77-9 2-hydroxyethyl methacrylate
        - Oral: LD50 4680 mg/kg (guinea pig), 3275 mg/kg (mouse), 5050 mg/kg (rat)
      - Primary irritant effect:
        - on the skin: Irritant to skin and mucous membranes.
        - 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.
### 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, ADR, ADN, IMDG, IATA: Void

- **UN proper shipping name**
  - DOT, ADR, ADN, IMDG, IATA: Void

- **Transport hazard class(es)**
  - DOT, ADR, ADN, IMDG, IATA: Void

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

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

- **Special precautions for user**
  - Not applicable.

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

- **UN "Model Regulation":** Void

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Sara**
    - **Section 355 (extremely hazardous substances):** None of the ingredient is listed.
    - **Section 313 (Specific toxic chemical listings):** None of the ingredients is listed.
    - **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.
Trade name: CLEARFIL SE BOND 2 ; BOND

- **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.

- **Cancerogenity categories**
  - **EPA (Environmental Protection Agency)**
    None of the ingredients is listed.
  - **TLV (Threshold Limit Value established by ACGIH)**
    None of the ingredients is listed.
  - **NIOSH-Ca (National Institute for Occupational Safety and Health)**
    None of the ingredients is listed.

- **GHS label elements**
  - **GHS label elements:**
  - **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**
  H315 Causes skin irritation.
  H317 May cause an allergic skin reaction.
  H319 Causes serious eye irritation.

- **NFPA ratings (scale 0 - 4)**
  ![NFPA ratings](image)
  
  Health = 1  
  Fire = 0  
  Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**
  ![HMIS-ratings](image)
  
  Health = 1  
  Fire = 0  
  Reactivity = 0

- **Abbreviations and acronyms:**
  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

- **Data compared to the previous version altered.**