1 Identification

- Product identifier
  - Trade name: CLEARFIL LINER BOND 2V ; BOND B
  - Article number: CA061-BB
- 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
  - benzoyl peroxide

- 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).
Trade name: CLEARFIL LINER BOND 2V ; BOND B

3 Composition/information on ingredients

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

<table>
<thead>
<tr>
<th>Dangerous components:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1565-94-2 bisphenol A diglycidylmethacrylate</td>
<td>Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319</td>
</tr>
<tr>
<td>868-77-9 2-hydroxyethyl methacrylate</td>
<td>Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Skin Sensitizer - Category 1, H317</td>
</tr>
<tr>
<td>94-36-0 benzoyl peroxide</td>
<td>Organic Peroxides – Type E, H242; Eye Irritation - Category 2A, H319; Skin Sensitizer - Category 1, H317</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other ingredients:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrophobic aliphatic dimethacrylate</td>
<td></td>
</tr>
<tr>
<td>Colloidal silica</td>
<td></td>
</tr>
</tbody>
</table>

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.
  - 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, 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.
  - Advice for firefighters
    - Protective equipment: Wear self-contained respiratory protective device. Wear fully protective suit.
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/substance/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: Transparent
      - Odor: Odorless
    - **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
    - **Vapor pressure:** Not determined
    - **Density:** 1.1 g/cm³
    - **Relative density:** Not determined
    - **Vapor density:** Not applicable
    - **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
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
      | Route | Value   |
      |-------|---------|
      | Oral  | LD50 4680 mg/kg (guinea pig) |
      |       | 3275 mg/kg (mouse) |
      |       | 5050 mg/kg (rat) |
      94-36-0 benzoyl peroxide
      | Route | Value   |
      |-------|---------|
      | Oral  | LD50 5700 mg/kg (mouse) |
      |       | 7710 mg/kg (rat) |
      |       | LD50 250 mg/kg (mouse - intraperitoneal) |
  - 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)
        94-36-0 benzoyl peroxide 3
      - 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.
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, ADN, IMDG, IATA: Void

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

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

- Packing group
  - DOT, TDG, 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

- Sara
  - Section 355 (extremely hazardous substances):
    None of the ingredient is listed.

  - Section 313 (Specific toxic chemical listings):
    94-36-0 benzoyl peroxide

  - SARA 311/312: See Section 2 for the information on physical and health hazards.

- TSCA (Toxic Substances Control Act):
  - All ingredients are listed.
Trade name: CLEARFIL LINER BOND 2V ; BOND B

<table>
<thead>
<tr>
<th>(Contd. of page 6)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Canadian substance listings:</strong></td>
</tr>
</tbody>
</table>
| **Canadian Domestic Substances List (DSL)**  
| All ingredients are listed.  |
| **Canadian Ingredient Disclosure list (limit 0.1%)**  
| None of the ingredients is listed.  |
| **Canadian Ingredient Disclosure list (limit 1%)**  
| 868-77-9 2-hydroxyethyl methacrylate  |
| 94-36-0 benzoyl peroxide  |

* 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.