1 Identification

- **Product identifier**
  - **Trade name:** CLEARFIL LINER BOND 2V ; BOND A
  - **Article number:** CA061-BA
- **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
- **Details of the supplier of the safety data sheet**
  - **Manufacturer:** Kuraray Noritake Dental Inc.
    1621 Sakazu, Kurashiki, Okayama 710-0801, Japan
  - **Contact information:** Kuraray America, Inc.
    33 Maiden Lane, 6th Floor, New York,
    NY 10038 U.S.A.
    Tel: 800-879-1676
    Fax: 888-700-5200
    Website: www.kuraraydental.com
  - **Emergency telephone number:**
    For chemical emergency spill, leak, fire, exposure or accident
    Call CHEMTREC day and night
    Within USA and Canada: 1-800-424-9300 CCN706984 or
    +1 703-527-3887 (collect calls accepted)

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.
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 25-50% w/w</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 25-50% w/w</td>
</tr>
</tbody>
</table>

- Other ingredients:
  - 10-Methacryloyloxydecyl dihydrogen phosphate
  - Hydrophobic aliphatic dimethacrylate
  - Colloidal silica
  - dl-Camphorquinone
  - Accelerators

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.
Trade name: CLEARFIL LINER BOND 2V ; BOND A

- Environmental precautions:
  Dilute with plenty of water.
  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 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:**
  - 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 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

(Contd. on page 5)
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:

<table>
<thead>
<tr>
<th>868-77-9 2-hydroxyethyl methacrylate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50</td>
<td></td>
</tr>
<tr>
<td>4680 mg/kg (guinea pig)</td>
<td></td>
</tr>
<tr>
<td>3275 mg/kg (mouse)</td>
<td></td>
</tr>
<tr>
<td>5050 mg/kg (rat)</td>
<td></td>
</tr>
</tbody>
</table>

- 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.
Trade name: CLEARFIL LINER BOND 2V ; BOND A

- 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.
  - Recommended cleansing agent: Water, if necessary with cleansing agents.

### 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
  - Class: 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):
    None of the ingredients is listed.

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

  - TSCA (Toxic Substances Control Act):
    All ingredients are listed.

  - Canadian substance listings:
    - Canadian Domestic Substances List (DSL)
      All ingredients are listed.
### Trade name: CLEARFIL LINER BOND 2V ; BOND A

- **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

### 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.