1 Identification

- **Product identifier**
  
  **Trade name:** CLEARFIL DC BOND ; Liquid A
  
  **Article number:** CA107-A

- **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
  
  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 DC BOND ; Liquid A

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
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: Substances None
- Chemical characterization: Mixtures
- Description: Mixture of substances listed below with nonhazardous additions.

<table>
<thead>
<tr>
<th>Chemical characterization</th>
<th>Component</th>
<th>% w/w</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-hydroxyethyl methacrylate</td>
<td>25-50%</td>
<td>Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Skin Sensitizer - Category 1, H317</td>
</tr>
<tr>
<td>bisphenol A diglycidylmethacrylate</td>
<td>25-50%</td>
<td>Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319</td>
</tr>
<tr>
<td>benzoyl peroxide</td>
<td>≤2.5%</td>
<td>Organic Peroxides – Type E, H242; Eye Irritation - Category 2A, H319; Skin Sensitizer - Category 1, H317</td>
</tr>
</tbody>
</table>

Other ingredients:
- 10-Methacryloyloxydecyl dihydrogen phosphate
- Colloidal silica
- dl-Camphorquinone
- Initiators

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.
6 Accidental release measures

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

- **pH-value:** Not applicable.

- **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 applicable.

- **Decomposition temperature:** Not determined

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**
  - **Lower:** Not applicable.
  - **Upper:** Not applicable.

- **Oxidizing properties**
  Not determined

- **Vapor pressure:** Not applicable.

- **Density:** 1.2 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 applicable.

- **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:
      | Substance | LD50 (mg/kg) |
      |-----------|--------------|
      | 868-77-9 2-hydroxyethyl methacrylate |
      | Oral | 4680 (guinea pig) |
      | | 3275 (mouse) |
      | | 5050 (rat) |
      | 94-36-0 benzoyl peroxide |
      | Oral | 5700 (mouse) |
      | | 7710 (rat) |
      | LD50 | 250 (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):
      | Substance | Carcinogenicity |
      |-----------|----------------|
      | 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.
Safety Data Sheet
According to HPR

Trade name: CLEARFIL DC BOND ; Liquid A

- 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, 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):
  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 DC BOND ; Liquid A

- **Canadian substance listings:**
  - **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%)**
    All ingredients are listed.

* **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.*