1 Identification

- **Product identifier**
  - **Trade name:** CLEARFIL SE BOND 2 ; PRIMER
  - **Article number:** US195-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
- **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 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.

(Contd. on page 2)
Trade name: CLEARFIL SE BOND 2 ; PRIMER

45.1.3

P363 Wash contaminated clothing before reuse.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Other hazards
· Results of PBT and vPvB assessment
  · PBT: Not applicable.
  · vPvB: Not applicable.

* 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>868-77-9 2-hydroxyethyl methacrylate</td>
<td>20-40%</td>
</tr>
<tr>
<td>Skin Irrit. 2; H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317</td>
<td></td>
</tr>
</tbody>
</table>

· Other ingredients:
  10-Methacryloyloxydecyl dihydrogen phosphate
  Hydrophilic aliphatic dimethacrylate
  dl-Camphorquinone
  Accelerators
  Water
  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.
  · 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/ 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

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**9 Physical and chemical properties**

- **Information on basic physical and chemical properties**
  - **General Information**
  - **Appearance:**
    - Form: Liquid
    - Color: Orange
    - Odor: Odorless
    - Odor threshold: Not determined.
  - **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**
  - **Vapor density**
  - **Evaporation rate**
  - **Solubility in / Miscibility with**
    - Water: Fully miscible.
  - **Partition coefficient (n-octanol/water):** Not determined
  - **Viscosity:** Not determined

(Contd. of 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**:
    - **LD/LC50 values that are relevant for classification**:
      - | Chemical          | LD50/EC50 (mg/kg) |
      |-------------------|------------------|
      | 868-77-9 2-hydroxyethyl methacrylate | Oral | 4680 (guinea pig) |
      |                   | 3275 (mouse)     |
      |                   | 5050 (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.
Trade name: CLEARFIL SE BOND 2 ; PRIMER

- 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, 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
  - Class 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 ; PRIMER

- 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)
  - Health = 1
  - Fire = 1
  - Reactivity = 0

- HMIS-ratings (scale 0 - 4)
  - Health = 1
  - Fire = 1
  - 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.