1 Identification

- Product identifier
  - Trade name: CLEARFIL PORCELAIN BOND ACTIVATOR
  - Article number: CA028
- Relevant identified uses of the substance or mixture and uses advised against
  - No further relevant information available.
- Application of the substance / the mixture
  - Adhesive, dental ceramic
- 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
  - Eye Irritation - Category 2A
  - Specific Target Organ Toxicity - Single Exposure - Category 3
  - Flammable Liquids - Category 4
  - H227 Combustible liquid.

- 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:
  - 3-trimethoxysilylpropyl methacrylate

- Hazard statements
  - H227 Combustible liquid.
  - H315 Causes skin irritation.
  - H319 Causes serious eye irritation.
  - H335 May cause respiratory irritation.

- Precautionary statements
  - P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
  - P280 Wear protective gloves/protective clothing/eye protection/face protection.

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Trade name: CLEARFIL PORCELAIN BOND ACTIVATOR

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a poison center/doctor if you feel unwell.
P321 Specific treatment (see on this label).
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

* 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>2530-85-0 3-trimethoxysilylpropyl methacrylate</th>
<th>25-50% w/w</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity (Dermal) – Category 3, H311; Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Specific Target Organ Toxicity - Single Exposure - Category 3, H335; Flammable Liquids - Category 4, H227</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Other ingredients: Hydrophobic aromatic dimethacrylate

* 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.

(Contd. on page 3)
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.
46.0.15

- 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: Slightly methacrylate odor
    - Odor threshold: Not determined.
  - pH-value: Not determined
  - Change in condition
    - Melting point/Melting range: Not determined
    - Boiling point/Boiling range: 190 °C (3-trimethoxysilylpropyl methacrylate)
  - Flash point: 92 °C (3-trimethoxysilylpropyl methacrylate)
  - Ignition temperature: Not applicable
  - 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: 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
  - Other information: No further relevant information available.

10 Stability and reactivity

- Reactivity: No further relevant information available.
11 Toxicological information

- Information on toxicological effects
  - Acute toxicity:
    - LD/LC50 values that are relevant for classification:
      2530-85-0 3-trimethoxysilylpropyl methacrylate
      Oral LD50 22600 mg/kg (rat)
      Dermal LD50 500 mg/kg (rabbit)
  - Primary irritant effect:
    - on the skin: Irritant to skin and mucous membranes.
    - on the eye: Irritating effect.
    - Sensitization: No sensitizing effects known.
  - 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.
      - 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 Void
  - TDG, ADN, IMDG, IATA Void

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

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

- Packing group
  - DOT Void
  - TDG, IMDG, IATA Void

- Environmental hazards:
  - Marine pollutant: No

- Special precautions for user
  - 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.
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(Contd. of page 6)

- 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.