1 Identification

- Product identifier
  - Trade name: CLEARFIL CERAMIC PRIMER
  - Article number: US117

- 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
  - GHS02 Flame
  - Flam. Liq. 2 H225 Highly flammable liquid and vapor.
  - GHS08 Health hazard
  - Carc. 1A H350 May cause cancer.

- Label elements
  - GHS label elements
    The product is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms GHS02, GHS08
  - Signal word Danger

- Hazard-determining components of labeling:
  - ethanol

- Hazard statements
  - H225 Highly flammable liquid and vapor.
  - H350 May cause cancer.

- Precautionary statements
  - P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
  - P240 Ground/bond container and receiving equipment.
  - P241 Use explosion-proof electrical/ventilating/lighting/equipment.
  - P242 Use only non-sparking tools.
  - P243 Take precautionary measures against static discharge.
  - P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.

(Contd. on page 2)
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>Dangerous components</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5 ethanol</td>
<td>Flam. Liq. 2, H225; Carc. 1A, H350</td>
</tr>
<tr>
<td>2530-85-0 3-trimethoxysilylpropyl methacrylate</td>
<td>Skin Irrit. 2; H315; Eye Irrit. 2A; H319; STOT SE 3; H335; Flam. Liq. 4; H227</td>
</tr>
</tbody>
</table>

- Other ingredients: 10-Methacryloyloxydecyl dihydrogen phosphate

4 First-aid measures

- Description of first aid measures
  - After inhalation: Supply fresh air; consult doctor in case of complaints.
  - After skin contact: Immediately rinse with water.
  - After eye contact: Rinse opened eye for several minutes under running water. Then 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
  - Wear protective equipment. Keep unprotected persons away.

- 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.

- **Information about protection against explosions and fires:**
  - Keep ignition sources away - Do not smoke.
  - Protect against electrostatic charges.

- **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:**
  - Store away from oxidizing agents.
  - Store away from reducing agents.

- **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**

<table>
<thead>
<tr>
<th>Component</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5 ethanol</td>
<td></td>
</tr>
<tr>
<td>PEL</td>
<td>1900 mg/m³, 1000 ppm</td>
</tr>
<tr>
<td>REL</td>
<td>1900 mg/m³, 1000 ppm</td>
</tr>
<tr>
<td>TLV</td>
<td>1880 mg/m³, 1000 ppm</td>
</tr>
</tbody>
</table>

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.

- **Breathing equipment:** Not required.

- **Protection of hands:**
  - 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.
Trade name: CLEARFIL CERAMIC PRIMER

- 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Information</strong></td>
<td></td>
</tr>
<tr>
<td>Appearance: Liquid</td>
<td></td>
</tr>
<tr>
<td>Color: Colorless</td>
<td></td>
</tr>
<tr>
<td>Odor: Alcohol-like</td>
<td></td>
</tr>
<tr>
<td><strong>pH-value:</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Change in condition</strong></td>
<td></td>
</tr>
<tr>
<td>Melting point/Melting range: -114.5 °C (ethanol)</td>
<td></td>
</tr>
<tr>
<td>Boiling point/Boiling range: 78 °C (ethanol)</td>
<td></td>
</tr>
<tr>
<td><strong>Flash point:</strong></td>
<td>13°C (ethanol)</td>
</tr>
<tr>
<td><strong>Ignition temperature:</strong></td>
<td>425.0 °C (ethanol)</td>
</tr>
<tr>
<td><strong>Decomposition temperature:</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Danger of explosion:</strong></td>
<td>Product is not explosive. However, formation of explosive air/vapor mixtures are possible.</td>
</tr>
<tr>
<td><strong>Explosion limits:</strong></td>
<td></td>
</tr>
<tr>
<td>Lower: 3.5 Vol % (ethanol)</td>
<td></td>
</tr>
<tr>
<td>Upper: 15.0 Vol % (ethanol)</td>
<td></td>
</tr>
<tr>
<td><strong>Oxidizing properties</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Vapor pressure:</strong></td>
<td>59.0 hPa (20 °C, ethanol)</td>
</tr>
<tr>
<td><strong>Density:</strong> 1.1 g/cm³</td>
<td></td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Vapor density</strong></td>
<td>1.6 g/cm³ (ethanol, air=1)</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Solubility in / Miscibility with Water:</strong></td>
<td>Partly miscible.</td>
</tr>
<tr>
<td><strong>Partition coefficient (n-octanol/water):</strong></td>
<td>-0.32 (ethanol)</td>
</tr>
<tr>
<td><strong>Viscosity:</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Other information</strong></td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

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.
11 Toxicological information

- Information on toxicological effects
- Acute toxicity:

- LD/LC50 values that are relevant for classification:

  64-17-5 ethanol

<table>
<thead>
<tr>
<th>Route</th>
<th>LD50</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>3450 mg/kg (mouse)</td>
<td>7060 mg/kg (rat)</td>
</tr>
<tr>
<td>Inhalative</td>
<td>20000 mg/l (rat)</td>
<td>3600 mg/kg (rat - intraperitoneal)</td>
</tr>
</tbody>
</table>

2530-85-0 3-trimethoxysilylpropyl methacrylate

<table>
<thead>
<tr>
<th>Route</th>
<th>LD50</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>22600 mg/kg (rat)</td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>500 mg/kg (rabbit)</td>
<td></td>
</tr>
</tbody>
</table>

- Primary irritant effect:
  - on the skin: No irritant effect.
  - on the eye: No irritating effect.
  - Sensitization: No sensitizing effects known.

- Additional toxicological information:

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

14 Transport information

- UN-Number
  - DOT
  - ADR, IMDG, IATA
  - UN proper shipping name
    - ADR
    - IMDG
    - IATA
  - Transport hazard class(es)
    - DOT
      - Class
      - Label
    - ADR, IMDG, IATA
      - Class
      - Label
  - Packing group
    - DOT, ADR, IMDG, IATA
  - Environmental hazards:
    - Marine pollutant: No
  - Special precautions for user
  - Danger code (Kemler):
  - EMS Number:
  - Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
  - UN "Model Regulation":

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.
Safety Data Sheet
acc. to OSHA HCS

Printing date 08/09/2017  Version 7
Reviewed on 07/31/2017

Trade name: CLEARFIL CERAMIC PRIMER

(Contd. of page 6)

- **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.

- **Chemicals known to cause reproductive toxicity for males:**
  None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**
  64-17-5 ethanol

- **Cancerogenity categories**

- **EPA (Environmental Protection Agency)**
  None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**
  64-17-5 ethanol A4

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**
  None of the ingredients is listed.

- **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**
  H225 Highly flammable liquid and vapor.
  H227 Combustible liquid.
  H315 Causes skin irritation.
  H319 Causes serious eye irritation.
  H335 May cause respiratory irritation.
  H350 May cause cancer.

- **NFPA ratings (scale 0 - 4)**
  ![Health: 0](image1) ![Fire: 5](image2) ![Reactivity: 0](image3)

- **HMIS-ratings (scale 0 - 4)**
  ![Health: 1](image1) ![Fire: 3](image2) ![Reactivity: 0](image3)

- **Abbreviations and acronyms:**
  Flam. Liq. 2: Flammable liquids – Category 2
  Flam. Liq. 4: Flammable liquids – Category 4
  Skin Irrit. 2: Skin corrosion/irritation – Category 2
  Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
  Carc. 1A: Carcinogenicity – Category 1A
  STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

* * Data compared to the previous version altered.*