1 Identification

· Product identifier
  · Trade name: CLEARFIL CERAMIC PRIMER PLUS
  · Article number: US215

· 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/ Adhesive, dental metal

· 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.
  P233 Keep container tightly closed.
  P240 Ground/bond container and receiving equipment.
  P241 Use explosion-proof electrical/ventilating/lighting/equipment.
  P242 Use only non-sparking tools.
  P280 Wear protective gloves / eye protection / face protection.

(Contd. on page 2)
Safety Data Sheet
acc. to OSHA HCS

Printing date 08/09/2017
Reviewed on 08/07/2017
Version 2

Trade name: CLEARFIL CERAMIC PRIMER PLUS

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
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: 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>&gt;80%</td>
</tr>
<tr>
<td>Flam. Liq. 2, H225;</td>
<td></td>
</tr>
<tr>
<td>Carc. 1A, H350</td>
<td></td>
</tr>
<tr>
<td>2530-85-0 3-trimethoxysilylpropyl methacrylate</td>
<td>&lt;5%</td>
</tr>
<tr>
<td>Skin Irrit. 2, H315;</td>
<td></td>
</tr>
<tr>
<td>Eye Irrit. 2A, H319;</td>
<td></td>
</tr>
<tr>
<td>STOT SE 3, H335; Flam. Liq. 4, H227</td>
<td></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.
Trade name: CLEARFIL CERAMIC PRIMER PLUS

Environmental precautions:
Dilate 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

Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Long-term value: 1900 mg/m³, 1000 ppm</th>
<th>Long-term value: 1900 mg/m³, 1000 ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5 ethanol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>REL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TLV</td>
<td></td>
<td></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.

- **Penetration time of glove material**
  The exact break through 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>Information on basic physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Information</td>
</tr>
<tr>
<td><strong>Appearance:</strong></td>
</tr>
<tr>
<td>Form: Liquid</td>
</tr>
<tr>
<td>Color: Colorless</td>
</tr>
<tr>
<td>Odor: Alcohol-like</td>
</tr>
<tr>
<td><strong>pH-value:</strong> Not determined</td>
</tr>
<tr>
<td><strong>Change in condition</strong></td>
</tr>
<tr>
<td>Melting point/Melting range: -114.5 °C (ethanol)</td>
</tr>
<tr>
<td>Boiling point/Boiling range: 78 °C (ethanol)</td>
</tr>
<tr>
<td><strong>Flash point:</strong> 13°C (ethanol)</td>
</tr>
<tr>
<td><strong>Ignition temperature:</strong> 425.0 °C (ethanol)</td>
</tr>
<tr>
<td><strong>Decomposition temperature:</strong> Not determined</td>
</tr>
<tr>
<td><strong>Danger of explosion:</strong> Product is not explosive. However, formation of explosive air/vapor mixtures are possible.</td>
</tr>
<tr>
<td><strong>Explosion limits:</strong></td>
</tr>
<tr>
<td>Lower: 3.5 Vol % (ethanol)</td>
</tr>
<tr>
<td>Upper: 15.0 Vol % (ethanol)</td>
</tr>
<tr>
<td><strong>Oxidizing properties</strong></td>
</tr>
<tr>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Vapor pressure:</strong> 59.0 hPa (20 °C, ethanol)</td>
</tr>
<tr>
<td><strong>Density:</strong> 0.8 g/cm³</td>
</tr>
<tr>
<td><strong>Relative density</strong> Not determined</td>
</tr>
<tr>
<td><strong>Vapor density:</strong> 1.6 g/cm³ (ethanol, air=1)</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong> Not determined</td>
</tr>
<tr>
<td><strong>Solubility in / Miscibility with</strong> Water: Partly miscible.</td>
</tr>
<tr>
<td><strong>Partition coefficient (n-octanol/water):</strong> -0.32 (ethanol)</td>
</tr>
<tr>
<td><strong>Viscosity:</strong> Not determined</td>
</tr>
<tr>
<td><strong>Other information</strong> No further relevant information available.</td>
</tr>
</tbody>
</table>

### 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:
      64-17-5 ethanol
      |   | LD50  | LC50/4 h  |
      |---|-------|----------|
      | Oral | 3450 mg/kg (mouse) | 7060 mg/kg (rat) |
      | Inhalative | 20000 mg/l (rat) | 3600 mg/kg (rat - intraperitoneal) |
      2530-85-0 3-trimethoxysilylpropyl methacrylate
      | Oral | LD50  | 22600 mg/kg (rat) |
      | Dermal | LD50  | 500 mg/kg (rabbit) |

· 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: UN1170
  - ADR, IMDG, IATA: 1170

- **UN proper shipping name**
  - DOT: Ethanol, mixture
  - ADR: 1170 Ethanol (Ethyl alcohol), mixture
  - IMDG: ETHANOL (ETHYL ALCOHOL), mixture
  - IATA: ETHANOL, mixture

- **Transport hazard class(es)**
  - **DOT**
    - Class: 3 Flammable liquids
    - Label: 3
  - **ADR, IMDG, IATA**
    - Class: 3 Flammable liquids
    - Label: 3

- **Packing group**
  - DOT, ADR, IMDG, IATA: II

- **Environmental hazards:**
  - Marine pollutant: No

- **Special precautions for user**
  - Warning: Flammable liquids

- **Danger code (Kemler):**
  - 33

- **EMS Number:**
  - F-E,S-D

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
  - Not applicable.

- **UN "Model Regulation":**
  - UN1170, Ethanol (Ethyl alcohol), mixture, 3, II

(Contd. of page 5)
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.
    - 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)
      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
  - Fire = 3
  - Reactivity = 0

- HMIS-ratings (scale 0 - 4)
  - Health = 1
  - Fire = 3
  - Reactivity = 0
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.