SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

· Trade name: CLEARFIL DC Activator
· Article number: 196
· Registration number: Not applicable

1.2 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

1.3 Details of the supplier of the safety data sheet

· Manufacturer:
  Kuraray Europe GmbH
  Philipp-Reis-Str. 4,
  65795 Hattersheim am Main
  Germany
  Phone: +49 (0)69 305 35 840
  Fax: +49 (0)69 305 35 640
  E-mail: dental@kuraray.de

· Supplier:
  J & S Davis
  5 Whitworth Road, Stevenage,
  Hertfordshire, SG1 4QS
  Great Britain
  Tel: +44-(0) 1438 747344
  Fax: +44-(0)1438 758909
  E-mail: jsdsales@js-davis.co.uk

· Further information obtainable from: Manufacturer or Supplier

1.4 Emergency telephone number:

· National Poisons information Service (London Centre)
  Guy’s & St. Thomas’ Hospital Trust
  Medical Toxicology Unit
  Avonley Road
  LONDON
  SE14 5ER
  Emergency telephone: (local) 0870 600 6266 or +44 20 7771 5394
  Administrative telephone: +44 20 7 771 53 10
  Facsimile number: +44 20 7 771 53 09

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

· Classification according to Regulation (EC) No 1272/2008

  GHS02 flame

  Flam. Liq. 2 H225 Highly flammable liquid and vapour.

2.2 Label elements

· Labelling according to Regulation (EC) No 1272/2008
  The product is classified and labelled according to the CLP regulation.

· Hazard pictograms: GHS02
· Signal word: Danger
· Hazard statements: H225 Highly flammable liquid and vapour.
· Precautionary statements:
  P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  P241 Use explosion-proof electrical/ventilating/lighting/equipment.

(Contd. on page 2)
SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances** None
- **3.2 Chemical characterisation: Mixtures**
  - **Description**: Mixture of substances listed below with nonhazardous additions.

- **Dangerous components**:
  - CAS: 64-17-5
  - EINECS: 200-578-6
  - **ethanol**
  - Flam. Liq. 2, H225 >90%

- **Other ingredients**:
  - Catalysts
  - Accelerators

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
  - **After inhalation**: Supply fresh air; consult doctor in case of complaints.
  - **After skin contact**: Generally the product does not irritate the skin.
  - **After eye contact**: Rinse opened eye for several minutes under running water.
  - **After swallowing**: Do not induce vomiting; call for medical help immediately.
    If symptoms persist consult doctor.

- **4.2 Most important symptoms and effects, both acute and delayed**
  - No further relevant information available.

- **4.3 Indication of any immediate medical attention and special treatment needed**
  - No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
  - **Suitable extinguishing agents**: CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- **5.2 Special hazards arising from the substance or mixture**
  - No further relevant information available.

- **5.3 Advice for firefighters**
  - **Protective equipment**:
    - Wear self-contained respiratory protective device.
    - Wear fully protective suit.
SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
  Wear protective equipment. Keep unprotected persons away.

- **6.2 Environmental precautions:**
  Dilute with plenty of water.
  Do not allow to enter sewers/surface or ground water.

- **6.3 Methods and material for containment and cleaning up:**
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Ensure adequate ventilation.

- **6.4 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.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
  Ensure good ventilation/exhaustion at the workplace.

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

- **7.2 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 oxidising agents.
  - Store away from reducing agents.
  - **Further information about storage conditions:**
  - Keep container tightly sealed.
  - Store in cool, dry conditions in well sealed receptacles.
  - Protect from heat and direct sunlight.

- **7.3 Specific end use(s)**
  No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

- **8.1 Control parameters**

  - **Ingredients with limit values that require monitoring at the workplace:**
    - **64-17-5 ethanol**
      - WEL Long-term value: 1920 mg/m³, 1000 ppm

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

- **8.2 Exposure controls**
  - **Personal protective equipment:**
  - **General protective and hygienic measures:** Wash hands before breaks and at the end of work.
  - **Respiratory protection:** 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
Trade name: CLEARFIL DC Activator

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

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties
  General Information
  Appearance:
  Form: Liquid
  Colour: Transparent
  Odour: Alcohol-like
  pH-value: Not determined

- Change in condition
  Melting point/Melting range: -114.5 °C (ethanol)
  Boiling point/Boiling range: 78 °C (ethanol)

- Flash point: 13 °C (ethanol)

- Ignition temperature: 425.0 °C (ethanol)

- Decomposition temperature: Not determined

- Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

- Explosion limits:
  Lower: 3.5 Vol % (ethanol)
  Upper: 15.0 Vol % (ethanol)

- Oxidising properties: Not determined

- Vapour pressure: 59.0 hPa (20 °C, ethanol)

- Density: 0.79 g/cm³
- Relative density: Not determined
- Vapour density: 1.6 g/cm³ (ethanol, air=1)
- Evaporation rate: Not determined

- Solubility in/Miscibility with water: Fully miscible.

- Partition coefficient (n-octanol/water): -0.32 (ethanol)

- Viscosity: Not determined

- 9.2 Other information
  No further relevant information available.

SECTION 10: Stability and reactivity

- 10.1 Reactivity
  No further relevant information available.

- 10.2 Chemical stability
  Thermal decomposition/conditions to be avoided: No decomposition if used according to specifications.

(Contd. on page 5)
SECTION 11: Toxicological information

11.1 Information on toxicological effects

- Acute toxicity: Based on available data, the classification criteria are not met.
- LD/LC50 values relevant for classification:

<table>
<thead>
<tr>
<th>64-17-5 ethanol</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50</td>
<td>3450 mg/kg (mouse)</td>
</tr>
<tr>
<td></td>
<td>7060 mg/kg (rat)</td>
</tr>
<tr>
<td>Inhalative LC50/4 h</td>
<td>20000 mg/l (rat)</td>
</tr>
<tr>
<td>LD50</td>
<td>3600 mg/kg (rat - intraperitoneal)</td>
</tr>
</tbody>
</table>

- Primary irritant effect:
- Skin corrosion/irritation: Based on available data, the classification criteria are not met.
- Serious eye damage/irritation: Based on available data, the classification criteria are not met.
- Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.
- CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
  - Germ cell mutagenicity: Based on available data, the classification criteria are not met.
  - Carcinogenicity: Based on available data, the classification criteria are not met.
  - Reproductive toxicity: Based on available data, the classification criteria are not met.
  - STOT-single exposure: Based on available data, the classification criteria are not met.
  - STOT-repeated exposure: Based on available data, the classification criteria are not met.
- Aspiration hazard: Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
- Additional ecological information:
  - General notes:
    - Water hazard class 1 (German Regulation) (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.

SECTION 13: Disposal considerations

- Waste treatment methods
  - Recommendation: Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- Uncleaned packaging
  - Recommendation: Disposal must be made according to official regulations.
SECTION 14: Transport information

- **14.1 UN-Number**
  - ADR, IMDG, IATA 1170

- **14.2 UN proper shipping name**
  - ADR 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
  - IMDG ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
  - IATA ETHANOL SOLUTION

- **14.3 Transport hazard class(es)**
  - ADR, IMDG, IATA

  - **Class**
    - 3 Flammable liquids.
  - **Label**
    - 3

- **14.4 Packing group**
  - ADR, IMDG, IATA II

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

- **14.6 Special precautions for user**
  - Warning: Flammable liquids.
  - Danger code (Kemler): 33
  - EMS Number: F-E,S-D

- **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**
  - Not applicable.

- **UN "Model Regulation":**
  - UN1170; ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION); 3; II

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

- **15.2 Chemical safety assessment:**
  - A Chemical Safety Assessment has not been carried out.

*SECTION 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 vapour.

- **Abbreviations and acronyms:**
  - Flam. Liq. 2: Flammable liquids – Category 2

* Data compared to the previous version altered.