1 Identification

- **Product identifier**
  - Trade name: CLEARFIL DC Activator
- **Article number:** CA196
- **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

2 Hazard(s) identification

- **Classification of the substance or mixture**
  - Flammable Liquids - Category 2  H225 Highly flammable liquid and vapour.

- **Label elements**
  - GHS label elements
    - The product is classified and labeled according to the Globally Harmonized System (GHS).
- **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.
  - P233 Keep container tightly closed.
  - P240 Ground and bond container and receiving equipment.
  - P241 Use explosion-proof [electrical/ventilating/lighting] equipment.
  - P242 Use non-sparking tools.
  - P243 Take actions to prevent static discharges.
  - P280 Wear protective gloves/protective clothing/eye protection/face protection.
  - P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
  - P403+P235 Store in a well-ventilated place. Keep cool.
  - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
Trade name: CLEARFIL DC Activator

### 3 Composition/information on ingredients

- **Chemical characterization:** Mixtures
- **Description:** Mixture of substances listed below with nonhazardous additions.

#### Dangerous components:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5 ethanol</td>
<td>Flammable Liquids - Category 2, H225; Carcinogenicity - Category 1A, H350</td>
</tr>
</tbody>
</table>

#### Other ingredients:
- Catalysts
- Accelerators

### 4 First-aid measures

- **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; 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:**
  - CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Suitable extinguishing agents:**
  - No further relevant information available.
- **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:**
  - 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:**

- **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:**

- **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>Component</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>64-17-5 ethanol</td>
<td>EL: Short-term value: 1000 ppm, EV: Long-term value: 1,900 mg/m³, 1,000 ppm</td>
</tr>
</tbody>
</table>

- **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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
Trade name: CLEARFIL DC Activator

- **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: 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/vapor mixtures are possible.
  - **Explosion limits:**
    - Lower: 3.5 Vol % (ethanol)
    - Upper: 15.0 Vol % (ethanol)
  - **Oxidizing properties**
    - Not determined.
  - **Vapor pressure:** 59.0 hPa (20°C, ethanol)
  - **Density:** 0.8 g/cm³
  - **Relative density**
    - Not determined.
  - **Vapor 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
  - **Other information**
    - No further relevant information available.

### 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.
Trade name: CLEARFIL DC Activator

11 Toxicological information

- Information on toxicological effects
- Acute toxicity:

<table>
<thead>
<tr>
<th>64-17-5 ethanol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Inhalative LC50/4 h</td>
</tr>
<tr>
<td>LD50</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.
## 14 Transport information

<table>
<thead>
<tr>
<th>DOT, IMDG, IATA</th>
<th>UN1170</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UN proper shipping name</strong></td>
<td>Ethanol solutions (Ethyl alcohol solutions)</td>
</tr>
<tr>
<td><strong>DOT</strong></td>
<td>1170</td>
</tr>
<tr>
<td><strong>TDG</strong></td>
<td>Ethanol solution (ETHYL ALCOHOL SOLUTION)</td>
</tr>
<tr>
<td><strong>IMDG</strong></td>
<td>ETHANOL SOLUTION</td>
</tr>
<tr>
<td><strong>IATA</strong></td>
<td>ETHANOL SOLUTION</td>
</tr>
</tbody>
</table>

### Transport hazard class(es)

- **DOT**
  - **Class**: 3 Flammable liquids
  - **Label**: 3

### Packing group

- **DOT, TDG, 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 MARPOL 73/78 and the IBC Code

- Not applicable.

### UN "Model Regulation"

- UN1170, Ethanol solutions (Ethyl alcohol solutions), 3, II

## 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.
Trade name: CLEARFIL DC Activator

- **TSCA (Toxic Substances Control Act):**
  All ingredients are listed.

- **Canadian Domestic Substances List (DSL):**
  All ingredients are listed.

- **Canadian Ingredient Disclosure list (limit 0.1%):**
  All ingredients are listed.

- **Canadian Ingredient Disclosure list (limit 1%):**
  None of the ingredients is 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.