

Material Safety Data Sheet
acc. to ISO/DIS 11014

Printing date 11/17/2006

Reviewed on 11/17/2006

1 Identification of substance

- **Product details**
- **Trade name:** CLEARFIL DC BOND Liquid B
- **Article number:** 107-B
- **Application of the substance / the preparation** Dental bonding material
- **Manufacturer:**
Kuraray Medical Inc.
1621 Sakazu, Kurashiki, Okayama 710-0801,
Japan
- **Supplier:**
Kuraray America, Inc.
600 Lexington Avenue, 26th Floor, New York,
NY10022 U.S.A
Tel: (800)879-1676
- **Information department:** Supplier

2 Composition/Data on components

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

· **Dangerous components:**

64-17-5	ethanol	30-60%
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· **Other ingredients:**

Water
Initiators
Accelerators and others

3 Hazards identification

- **Hazard description:**
Highly flammable
- **Information pertaining to particular dangers for man and environment:**
The product has to be labelled due to the calculation procedure of international guidelines.
Highly flammable.
- **Classification system:**
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **NFPA ratings (scale 0 - 4)**
Health = 0
Fire = 3
Reactivity = 0
- **HMIS-ratings (scale 0 - 4)**
Health = 0
Fire = 3
Reactivity = 0

4 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.

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If symptoms persist consult doctor.

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5 Fire fighting measures

- **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

- **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.

7 Handling and storage

- **Handling:**
- **Information 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.
- **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.

8 Exposure controls and personal protection

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

· **Components with limit values that require monitoring at the workplace:**

64-17-5 ethanol

PEL	1900 mg/m ³ , 1000 ppm
REL	1900 mg/m ³ , 1000 ppm
TLV	1880 mg/m ³ , 1000 ppm

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

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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.

· **Eye protection:** Tightly sealed goggles

9 Physical and chemical properties

· **General Information**

Form:	Liquid
Color:	Transparent
Odor:	Alcohol-like

· **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)

· **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)

· **Vapor pressure:** 59.0 hPa (20°C, ethanol)

· **Density:** 0.8 g/cm³ (ethanol)
· **Vapour density:** 1.6 g/cm³ (ethanol, air=1)

· **Solubility in / Miscibility with**

Water: Fully miscible.

· **pH-value:** Not applicable

· **Segregation coefficient (n-octanol/water):** -0.32 (ethanol)

10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

· **Dangerous reactions** No dangerous reactions known.

· **Dangerous products of decomposition:** Carbon monoxide and carbon dioxide

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11 Toxicological information

· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

64-17-5 ethanol

Oral	LD50	3450 mg/kg (mouse) 7060 mg/kg (rat)
Inhalative	LC50/4 h	20000 mg/l (rat)
	LD50	3600 mg/kg (rat - intraperitoneal)

· **Primary irritant effect:**

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

12 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.

13 Disposal considerations

· **Product:**

· **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

· **DOT regulations:**

- **Hazard class:** 3
- **Identification number:** UN1170
- **Packing group:** II
- **Proper shipping name (technical name):** ETHANOL SOLUTION
- **Label:** 3

· **Land transport ADR/RID (cross-border):**

- **ADR/RID class:** 3 Flammable liquids
- **Danger code (Kemler):** 33
- **UN-Number:** 1170
- **Packaging group:** II
- **Label:** 3
- **Description of goods:** 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)

· **Maritime transport IMDG:**

- **IMDG Class:** 3
- **UN Number:** 1170
- **Label:** 3
- **Packaging group:** II
- **EMS Number:** F-E,S-D
- **Marine pollutant:** No

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· Propper shipping name:	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
· Air transport ICAO-TI and IATA-DGR:	
· ICAO/IATA Class:	3
· UN/ID Number:	1170
· Label	3
· Packaging group:	II
· Propper shipping name:	ETHANOL SOLUTION

15 Regulations

· 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:	64-17-5 ethanol
· Carcinogeny categories	
· EPA (Environmental Protection Agency)	None of the ingredients is listed.
· IARC (International Agency for Research on Cancer)	None of the ingredients is listed.
· NTP (National Toxicology Program)	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.
· OSHA-Ca (Occupational Safety & Health Administration)	None of the ingredients is listed.

· **Product related hazard informations:**
The product has been classified and marked in accordance with directives on hazardous materials.

· **Hazard symbols:**



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· Risk phrases:

Highly flammable.

· Safety phrases:

Keep container tightly closed and in a well-ventilated place.

Keep away from sources of ignition - No smoking.

This material and its container must be disposed of as hazardous waste.

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.

· Version: 1

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