SAFETY DATA SHEETS

This SDS packet was issued with item:

075218441

N/A



Printing date 05/25/2018 Version 3 Reviewed on 05/25/2018

1 Identification

Product identifier

· Trade name: CLEARFIL PHOTO BOND; CATALYST

· Article number: CA023-C

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
- 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



Skin Irritation - Category 2 H315 Causes skin irritation.

Eye Irritation - Category 2A H319 Causes serious eye irritation.

Skin Sensitizer - Category 1 H317 May cause an allergic skin reaction.

- · Label elements
- · GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

- Hazard pictograms GHS07
- · Signal word Warning
- · Hazard-determining components of labeling:

2-hydroxyethyl methacrylate

benzoyl peroxide

Hazard statements

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

· Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 If on skin: Wash with plenty of water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

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P333+P313 If skin irritation or rash occurs: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

3 Composition/information on ingredients

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

U	s components:	
1565-94-2	bisphenol A diglycidylmethacrylate	25-50% w/w
	Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319	
868-77-9	2-hydroxyethyl methacrylate	10-25% w/w
	Skin Irritation - Category 2, H315; Eye Irritation - Category 2A, H319; Skin Sensitizer - Category 1, H317	
94-36-0	benzoyl peroxide	≦2.5% w/w
	Organic Peroxides – Type E, H242; Eye Irritation - Category 2A, H319; Skir Sensitizer - Category 1, H317	1

Other ingredients:

10-Methacryloyloxydecyl dihydrogen phosphate

Hydrophobic aliphatic dimethacrylate

dl-Camphorquinone

4 First-aid measures

- Description of first aid measures
- · After inhalation:

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eve contact:

Rinse opened eye for several minutes under running water. If symptoms persist, 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.

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Trade name: CLEARFIL PHOTO BOND; CATALYST

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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.

Prevent formation of aerosols.

- Information about protection against explosions and fires: No special measures required.
- · 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:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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Trade name: CLEARFIL PHOTO BOND; CATALYST

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Protection of hands:



Protective gloves

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.

Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and c · General Information	hemical properties
· Appearance:	
Form:	Liquid
Color:	Yellow
· Odor:	Odorless
· pH-value:	Not determined
· Change in condition	
Melting point/Melting range:	-12 °C (2-hydroxyethyl methacrylate)
Boiling point/Boiling range:	205 °C (2-hydroxyethyl methacrylate)
· Flash point:	97 °C (2-hydroxyethyl methacrylate)
· Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Oxidizing properties	Not determined
· Vapor pressure:	Not determined
Density:	1.1 g/cm ³
· Relative density	Not determined
· Vapor density	Not determined
Evaporation rate	Not determined

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· Solubility in / Miscibility with

Water: Partly miscible.

Partition coefficient (n-octanol/water): Not determined.

· 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.
- · Hazardous decomposition products: Carbon monoxide and carbon dioxide

11 Toxicological information

- Information on toxicological effects
- **Acute toxicity:**

· I	JD,	/L	C5	0	val	lues	th	at	are	rel	evant	t f	or	cl	ass	ifi	cat	ion	:
-----	-----	----	----	---	-----	------	----	----	-----	-----	-------	-----	----	----	-----	-----	-----	-----	---

868-77-9 2-hydroxyethyl methacrylate

Oral LD50 4680 mg/kg (guinea pig) 3275 mg/kg (mouse) 5050 mg/kg (rat)

94-36-0 benzoyl peroxide

Oral LD50 5700 mg/kg (mouse)
7710 mg/kg (rat)
LD50 250 mg/kg (mouse - intraperitoneal)

- · Primary irritant effect:
- on the skin: Irritant to skin and mucous membranes.
- on the eye: Irritating effect.
- · Sensitization: Sensitization possible through skin contact.
- Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

94-36-0 benzoyl peroxide

3

· NTP (National Toxicology Program)

None of the ingredients is listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.

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- · 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.

4 Transport information	
· UN-Number	
DOT, TDG, ADN, IMDG, IATA	Void
· UN proper shipping name	
DOT, ADN, IMDG, IATA	Void
·TDG	Void
· Transport hazard class(es)	
DOT, TDG, ADN, IMDG, IATA	
Class	Void
· Packing group	
DOT, TDG, IMDG, IATA	Void
Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
Transport in bulk according to Annex	II of
MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	Void

15 Regulatory information

·Sara

Section 355 (extremely hazardous substances):

None of the ingredient is listed.

· Section 313 (Specific toxic chemical listings):

94-36-0 benzoyl peroxide

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· SARA 311/312: See Section 2 for the information on physical and health hazards.

· TSCA (Toxic Substances Control Act):

All ingredients are listed.

· Canadian substance listings:

· Canadian Domestic Substances List (DSL)

All ingredients are listed.

Canadian Ingredient Disclosure list (limit 0.1%)

None of the ingredients is listed.

· Canadian Ingredient Disclosure list (limit 1%)

868-77-9 2-hydroxyethyl methacrylate

94-36-0 benzoyl peroxide

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.

CA



Printing date 05/25/2018 Version 3 Reviewed on 05/25/2018

1 Identification

· Product identifier

· Trade name: CLEARFIL PHOTO BOND; UNIVERSAL

· Article number: CA023-U

· 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
- · 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



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-determining components of labeling: Ethanol
- · 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.

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Trade name: CLEARFIL PHOTO BOND; UNIVERSAL

P501

Dispose of contents/container in accordance with local/regional/national/international

regulations.

3 Composition/information on ingredients

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

64-17-5 ethanol

50-100% w/w

🏈 Flammable Liquids - Category 2, H225; 🐼 Carcinogenicity - Category 1A, H350

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 eve 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
- · 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 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.

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Trade name: CLEARFIL PHOTO BOND; UNIVERSAL

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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:

64-17-5 ethanol

EL Short-term value: 1000 ppm

EV Long-term value: 1,900 mg/m³, 1,000 ppm

- 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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

 Information on basic physical and chemical proper 	rtiac

· General Information

· Appearance:

Form: Liquid
Color: Transparent
Odor: Alcohol-like

pH-value: Not determined

Change in condition

Melting point/Melting range:
Boiling point/Boiling range:
-114.5 °C (ethanol)
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.

(Contd. on page 5)



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Trade name: CLEARFIL PHOTO BOND; UNIVERSAL

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· Hazardous decomposition products: Carbon monoxide and carbon dioxide

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

64-17-5 ethanol

04-17-5 66	nanoi	
Oral	LD50	3450 mg/kg (mouse)
		7060 mg/kg (rat)
Inhalative	LC50/4 h	20000 mg/l (rat)
	LD50	3600 mg/kg (rat - intraperioneal)

- 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.

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Trade name: CLEARFIL PHOTO BOND; UNIVERSAL

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

UN-Number	
DOT	UN1170
TDG, IMDG, IATA	1170
UN proper shipping name	
DOT	Ethanol solutions
TDG	1170 Ethanol solutions (Ethyl alcohol solutions)
IMDG	ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTIO
IATA	ETHANOL SOLUTION
Transport hazard class(es)	
DOT	
Laurence Cock	
Class	3 Flammable liquids
Label	3
TDG, IMDG, IATA	
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

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

15 Regulatory information

· UN "Model Regulation":

·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.

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Trade name: CLEARFIL PHOTO BOND; UNIVERSAL

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TSCA (Toxic Substances Control Act):

All ingredients are listed.

- · Canadian substance listings:
- · 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.

CA