

1 Identification of substance

- **Product details**
- **Trade name:** ALLOY PRIMER
- **Article number:** US054
- **Application of the substance / the preparation** Adhesive, dental metal
- **Manufacturer:**
Kuraray Medical Inc.
1621 Sakazu, Kurashiki, Okayama 710-0801,
Japan
- **Supplier:**
Kuraray America, Inc.
600 Lexington Avenue, 26th Floor, New York,
NY 10022 U.S.A.
Tel: 800-879-1676
Fax: 888-700-5200
Website: www.kuraraydental.com
- **Information department:** Supplier

2 Composition/Data on components

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

- **Dangerous components:**

67-64-1	acetone	Danger:  2.6/2	>90%
		Warning:  3.3/2A, 3.8/3	

- **Other ingredients:**
6-(4-Vinylbenzyl-N-propyl)amino-1,3,5-triazine-2,4-dithione
10-Methacryloyloxydecyl dihydrogen phosphate

3 Hazards identification

- **Hazard description:**



Irritant
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.
Irritating to eyes.
Vapours may cause drowsiness and dizziness.

- **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 = 1
Fire = 3
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**

Health = 1
Fire = 3
Reactivity = 0

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Reviewed on 10/01/2008

Trade name: ALLOY PRIMER

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· GHS label elements**Danger**

2.6/2 - Highly flammable liquid and vapour.

**Warning**

3.3/2A - Causes serious eye irritation.

3.8/3 - May cause drowsiness or dizziness.

· Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/ equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

· Response:

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Call a POISON CENTER or doctor/physician if you feel unwell.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use for extinction: CO2, powder or water spray.

· Storage:

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

Store in a well-ventilated place. Keep cool.

Store locked up.

· Disposal:

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

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. If symptoms persist, consult a doctor.

· After swallowing:

Do not induce vomiting; immediately call for medical help.

If symptoms persist consult doctor.

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.

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Wear fully protective suit.

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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.
 - Prevent formation of aerosols.
- **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 cool location (2-25°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:**

67-64-1 acetone

PEL	2400 mg/m ³ , 1000 ppm
REL	590 mg/m ³ , 250 ppm
TLV	Short-term value: 1782 mg/m ³ , 750 ppm
	Long-term value: 1188 mg/m ³ , 500 ppm
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- **Additional information:** The lists that were valid during the creation were used as basis.
- **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.
- **Breathing equipment:** Use suitable respiratory protective device in case of insufficient ventilation.
- **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.

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Trade name: ALLOY PRIMER

(Contd. of page 3)

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:	Acetone-like

· **Change in condition**

Melting point/Melting range:	94.7 °C (acetone)
Boiling point/Boiling range:	55 °C (acetone)

· **Flash point:**

-19 °C (acetone)

· **Ignition temperature:**

465.0 °C (acetone)

· **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

Lower:	2.6 Vol % (acetone)
Upper:	13.0 Vol % (acetone)

· **Vapor pressure:**

233.0 hPa (20°C, acetone)

· **Density:**

0.79 g/cm³ (acetone)

· **Vapour density**

2.0 g/cm³ (acetone, air=1)

· **Solubility in / Miscibility with**

Water:	Partly miscible.
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· **pH-value:**

Not applicable

· **Segregation coefficient (n-octanol/water):** -0.24 (acetone)

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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Trade name: ALLOY PRIMER

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11 Toxicological information

· **Acute toxicity:**

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

67-64-1 acetone

Oral	LD50	5800 mg/kg (rat)
Dermal	LD50	20000 mg/kg (rabbit)

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** Irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:**

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

Irritant

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:	UN1090
· Packing group:	II
· Proper shipping name (technical name):	ACETONE, solution
· Label	3

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

· ADR/RID class:	3 Flammable liquids
· Danger code (Kemler):	33
· UN-Number:	1090
· Packaging group:	II
· Label:	3
· Description of goods:	1090 ACETONE, solution

· **Maritime transport IMDG:**

· IMDG Class:	3
· UN Number:	1090
· Label	3

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Trade name: ALLOY PRIMER

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- **Packaging group:** II
- **EMS Number:** F-E,S-D
- **Marine pollutant:** No
- **Propper shipping name:** ACETONE, solution

- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1090
- **Label** 3
- **Packaging group:** II
- **Propper shipping name:** ACETONE, solution

- **UN "Model Regulation":** UN1090; ACETONE, solution; 3; II

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:**

None of the ingredients is listed.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**

67-64-1 acetone

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· **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)**

67-64-1 acetone

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.

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Trade name: ALLOY PRIMER

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· Hazard symbols:Irritant
Highly flammable**· Hazard-determining components of labelling:**

acetone

· Risk phrases:

Highly flammable.

Irritating to eyes.

Vapours may cause drowsiness and dizziness.

· Safety phrases:

Keep container in a well-ventilated place.

Keep away from sources of ignition - No smoking.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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: 2**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement internationale concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

1 Identification of substance

- **Product details**
- **Trade name:** CLEARFIL CERAMIC PRIMER
- **Article number:** US117
- **Application of the substance / the preparation** Adhesive, dental ceramic
- **Manufacturer:**
Kuraray Medical Inc.
1621 Sakazu, Kurashiki, Okayama 710-0801,
Japan
- **Supplier:**
Kuraray America, Inc.
600 Lexington Avenue, 26th Floor, New York,
NY 10022 U.S.A.
Tel: 800-879-1676
Fax: 888-700-5200
Website: www.kuraraydental.com
- **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	Danger: 2.6/2	>80%
2530-85-0	3-trimethoxysilylpropyl methacrylate	Warning: 3.2/2, 3.3/2A, 3.8/3	< 5%

- **Other ingredients:** 10-Methacryloyloxydecyl dihydrogen phosphate

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

· **GHS label elements**



Danger

2.6/2 - Highly flammable liquid and vapour.

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Reviewed on 10/01/2008

Trade name: CLEARFIL CERAMIC PRIMER

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Prevention:

- Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- Keep container tightly closed.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting/ equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of fire: Use for extinction: CO₂, powder or water spray.

Storage:

Store in a well-ventilated place. Keep cool.

Disposal:

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

4 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.

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).

(Contd. on page 3)

Trade name: CLEARFIL CERAMIC PRIMER

(Contd. of page 2)

- **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.
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:	Colorless
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.

(Contd. on page 4)

Trade name: CLEARFIL CERAMIC PRIMER

(Contd. of page 3)

- **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:** Partly 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

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)

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.

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.

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Printing date 09/29/2008

Reviewed on 10/01/2008

Trade name: CLEARFIL CERAMIC PRIMER

(Contd. of page 4)

- **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, mixture
- **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 (ETHYL ALCOHOL), mixture

- **Maritime transport IMDG:**
- **IMDG Class:** 3
- **UN Number:** 1170
- **Label:** 3
- **Packaging group:** II
- **EMS Number:** F-E,S-D
- **Marine pollutant:** No
- **Propper shipping name:** ETHANOL (ETHYL ALCOHOL), mixture

- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1170
- **Label:** 3
- **Packaging group:** II
- **Propper shipping name:** ETHANOL, mixture

· **UN "Model Regulation":** UN1170; ETHANOL (ETHYL ALCOHOL), mixture; 3; II

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.

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Trade name: CLEARFIL CERAMIC PRIMER

(Contd. of page 5)

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

64-17-5 ethanol

· Cancerogenity 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:



Highly flammable

· Hazard-determining components of labelling:

ethanol
3-trimethoxysilylpropyl methacrylate

· Risk phrases:

Highly flammable.

· Safety phrases:

Keep container tightly closed and in a well-ventilated place.
Keep away from sources of ignition - No smoking.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
After contact with skin, wash immediately with plenty of soap and water.
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: 4

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement internationale concernent le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

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Trade name: CLEARFIL CERAMIC PRIMER

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ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

USA

1 Identification of substance

- **Product details**
- **Trade name:** K-ETCHANT GEL
- **Article number:** US021
- **Application of the substance / the preparation** Dental etching composite
- **Manufacturer:**
Kuraray Medical Inc.
1621 Sakazu, Kurashiki, Okayama 710-0801,
Japan
- **Supplier:**
Kuraray America, Inc.
600 Lexington Avenue, 26th Floor, New York,
NY 10022 U.S.A.
Tel: 800-879-1676
Fax: 888-700-5200
Website: www.kuraraydental.com
- **Information department:** Supplier

2 Composition/Data on components

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

· **Dangerous components:**

7664-38-2	phosphoric acid	Danger:  3.2/1B	40-60%
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· **Other ingredients:**

Colloidal silica
Water
Dyes

3 Hazards identification

· **Hazard description:**



Corrosive

· **Information pertaining to particular dangers for man and environment:**

The product has to be labelled due to the calculation procedure of international guidelines.
Causes burns.

· **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 = 3
Fire = 0
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = 3
Fire = 0
Reactivity = 0

(Contd. on page 2)

Printing date 09/29/2008

Reviewed on 10/01/2008

Trade name: K-ETCHANT GEL

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· GHS label elements

**Danger**

3.2/1B - Causes severe skin burns and eye damage.

· **Prevention:**

Do not breathe dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

· **Response:**

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

Specific treatment (see label).

Wash contaminated clothing before reuse.

· **Storage:**

Store locked up.

· **Disposal:**

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

4 First aid measures

- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** 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 eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.

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).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

USA

(Contd. on page 3)

Trade name: K-ETCHANT GEL

(Contd. of page 2)

7 Handling and storage

- **Handling:**
- **Information 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.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location (2-25°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:**

7664-38-2 phosphoric acid

PEL	1 mg/m ³
REL	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³
TLV	Short-term value: 3 mg/m ³ Long-term value: 1 mg/m ³

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

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Printing date 09/29/2008

Reviewed on 10/01/2008

Trade name: K-ETCHANT GEL

· **Eye protection:** Tightly sealed goggles

(Contd. of page 3)

9 Physical and chemical properties

· **General Information**

Form:	Gel
Color:	Red
Odor:	Odorless

· **Change in condition**

Melting point/Melting range:	42.4 °C (phosphoric acid)
Boiling point/Boiling range:	Undetermined.

· **Flash point:** Not applicable.

· **Ignition temperature:** Not applicable

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower:	Not applicable
Upper:	Not applicable

· **Vapor pressure:** Not applicable

· Density:	1.3 g/cm ³
· Vapour density	Not applicable

· **Solubility in / Miscibility with**

Water:	Partly miscible.
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· **pH-value:** 1.8

· **Segregation coefficient (n-octanol/water):** Not applicable

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

11 Toxicological information

· **Acute toxicity:**

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

7664-38-2 phosphoric acid

Oral	LD50	1250 mg/kg (mouse)
		1250 mg/kg (rat)
Dermal	LD50	2740 mg/kg (rabbit)

· **Primary irritant effect:**

· **on the skin:** Caustic effect on skin and mucous membranes.

· **on the eye:** Strong caustic effect.

· **Sensitization:** No sensitizing effects known.

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Printing date 09/29/2008

Reviewed on 10/01/2008

Trade name: K-ETCHANT GEL

(Contd. of page 4)

· **Additional toxicological information:**

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

Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

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:	8
· Identification number:	UN1805
· Packing group:	III
· Proper shipping name (technical name):	PHOSPHORIC ACID, SOLUTION
· Label	8

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

· ADR/RID class:	8 Corrosive substances
· Danger code (Kemler):	80
· UN-Number:	1805
· Packaging group:	III
· Label:	8
· Description of goods:	1805 PHOSPHORIC ACID, SOLUTION

· **Maritime transport IMDG:**

· IMDG Class:	8
· UN Number:	1805
· Label	8
· Packaging group:	III
· EMS Number:	F-A,S-B
· Marine pollutant:	No
· Propper shipping name:	PHOSPHORIC ACID, SOLUTION

· **Air transport ICAO-TI and IATA-DGR:**

· ICAO/IATA Class:	8
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(Contd. on page 6)

Printing date 09/29/2008

Reviewed on 10/01/2008

Trade name: K-ETCHANT GEL

(Contd. of page 5)

- **UN/ID Number:** 1805
- **Label** 8
- **Packaging group:** III
- **Propper shipping name:** PHOSPHORIC ACID, SOLUTION
- **UN "Model Regulation":** UN1805; PHOSPHORIC ACID, SOLUTION; 8; III

15 Regulations

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

7664-38-2 phosphoric acid

· **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.

· **Carcinogenity 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)**

None of the ingredients is listed.

· **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:**



Corrosive

(Contd. on page 7)

Printing date 09/29/2008

Reviewed on 10/01/2008

Trade name: K-ETCHANT GEL

(Contd. of page 6)

· **Hazard-determining components of labelling:**
phosphoric acid

· **Risk phrases:**
Causes burns.

· **Safety phrases:**
When using do not eat or drink.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Wear suitable protective clothing, gloves and eye/face protection.
In case of accident or if you feel unwell, seek medical advice immediately.
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: 2**

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement internationale concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

USA

Printing date 10/02/2008

Reviewed on 10/01/2008

1 Identification of substance

- **Product details**
- **Trade name:** CLEARFIL ST OPAQUER
- **Article number:** US013
- **Application of the substance / the preparation** Dental filling material
- **Manufacturer:**
Kuraray Medical Inc.
1621 Sakazu, Kurashiki, Okayama 710-0801,
Japan
- **Supplier:**
Kuraray America, Inc.
600 Lexington Avenue, 26th Floor, New York,
NY 10022 U.S.A.
Tel: 800-879-1676
Fax: 888-700-5200
Website: www.kuraraydental.com
- **Information department:** Supplier

2 Composition/Data on components

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

· **Dangerous components:**

1565-94-2	bisphenol A diglycidylmethacrylate	Warning:  3.2/2, 3.3/2A	5-25%
109-16-0	triethylene glycol dimethacrylate	Warning:  3.2/2, 3.3/2A, 3.8/3	<10%

- **Other ingredients:**
Silanated silica filler
Colloidal silica
Silanated colloidal silica
dl-Camphorquinone
Catalysts
Accelerators
Pigments
Others

3 Hazards identification· **Hazard description:**

Irritant

- **Information pertaining to particular dangers for man and environment:**
The product has to be labelled due to the calculation procedure of international guidelines.
Irritating to eyes and skin.
- **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 = 1
Fire = 0
Reactivity = 0

(Contd. on page 2)

USA

Printing date 10/02/2008

Reviewed on 10/01/2008

Trade name: CLEARFIL ST OPAQUER

(Contd. of page 1)

· HMIS-ratings (scale 0 - 4)

Health = 1

Fire = 0

Reactivity = 0

· GHS label elements**Warning**

3.2/2 - Causes skin irritation.

3.3/2A - Causes serious eye irritation.

· Prevention:

Wash thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

· Response:

IF ON SKIN: Wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see label).

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

4 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 eye 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.

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:** Not required.**· Measures for environmental protection:** Do not allow to enter sewers/ surface or ground water.**· Measures for cleaning/collecting:** Pick up mechanically.**7 Handling and storage****· Handling:****· Information for safe handling:**

Ensure good ventilation/exhaustion at the workplace.

(Contd. on page 3)

USA

Trade name: CLEARFIL ST OPAQUER

(Contd. of page 2)

- Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location (2-25°C).
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

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:**
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.
- **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:** Not required.
- **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

· General Information

Form:	Pasty
Color:	Colored
Odor:	Odorless

· Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

· Flash point:	Not applicable.
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· Ignition temperature:	Not applicable
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· Danger of explosion:	Product does not present an explosion hazard.
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(Contd. on page 4)

Trade name: CLEARFIL ST OPAQUER

(Contd. of page 3)

· Explosion limits:	
Lower:	Not applicable
Upper:	Not applicable
· Vapor pressure:	Not applicable
· Density:	1.1 g/cm ³
· Vapour density	Not applicable
· Solubility in / Miscibility with Water:	Insoluble.
· pH-value:	Not applicable
· Segregation coefficient (n-octanol/water):	Not applicable

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

11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

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.

USA

(Contd. on page 5)

Printing date 10/02/2008

Reviewed on 10/01/2008

Trade name: CLEARFIL ST OPAQUER

(Contd. of page 4)

14 Transport information

<ul style="list-style-type: none"> · DOT regulations: · Hazard class: -
<ul style="list-style-type: none"> · Land transport ADR/RID (cross-border): · ADR/RID class: -
<ul style="list-style-type: none"> · Maritime transport IMDG: · IMDG Class: - · Marine pollutant: No
<ul style="list-style-type: none"> · Air transport ICAO-TI and IATA-DGR: · ICAO/IATA Class: -
<ul style="list-style-type: none"> · UN "Model Regulation": -

15 Regulations

<ul style="list-style-type: none"> · Sara
<ul style="list-style-type: none"> · Section 355 (extremely hazardous substances): <p>None of the ingredient is listed.</p>
<ul style="list-style-type: none"> · Section 313 (Specific toxic chemical listings): <p>None of the ingredients is listed.</p>
<ul style="list-style-type: none"> · TSCA (Toxic Substances Control Act): <p>All ingredients are listed.</p>
<ul style="list-style-type: none"> · Proposition 65
<ul style="list-style-type: none"> · Chemicals known to cause cancer: <p>None of the ingredients is listed.</p>
<ul style="list-style-type: none"> · Chemicals known to cause reproductive toxicity for females: <p>None of the ingredients is listed.</p>
<ul style="list-style-type: none"> · Chemicals known to cause reproductive toxicity for males: <p>None of the ingredients is listed.</p>
<ul style="list-style-type: none"> · Chemicals known to cause developmental toxicity: <p>None of the ingredients is listed.</p>
<ul style="list-style-type: none"> · Carcinogeny categories
<ul style="list-style-type: none"> · EPA (Environmental Protection Agency) <p>None of the ingredients is listed.</p>
<ul style="list-style-type: none"> · IARC (International Agency for Research on Cancer) <p>None of the ingredients is listed.</p>
<ul style="list-style-type: none"> · NTP (National Toxicology Program) <p>None of the ingredients is listed.</p>
<ul style="list-style-type: none"> · TLV (Threshold Limit Value established by ACGIH) <p>None of the ingredients is listed.</p>
<ul style="list-style-type: none"> · NIOSH-Ca (National Institute for Occupational Safety and Health) <p>None of the ingredients is listed.</p>
<ul style="list-style-type: none"> · OSHA-Ca (Occupational Safety & Health Administration) <p>None of the ingredients is listed.</p>

- **Product related hazard informations:**
Observe the general safety regulations when handling chemicals.

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Printing date 10/02/2008

Reviewed on 10/01/2008

Trade name: CLEARFIL ST OPAQUER

(Contd. of page 5)

The product has been classified and marked in accordance with directives on hazardous materials.

· Hazard symbols:

Irritant

· Hazard-determining components of labelling:

bisphenol A diglycidylmethacrylate
triethylene glycol dimethacrylate

· Risk phrases:

Irritating to eyes and skin.

· Safety phrases:

Avoid contact with skin.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
After contact with skin, wash immediately with plenty of soap and water.
Wear suitable gloves.
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: 2**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Reglement internationale concernent le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

USA

1 Identification of substance

- **Product details**
- **Trade name:** SURFACE COAT
- **Article number:** US118
- **Application of the substance / the preparation** Dental material for glazing and hardening
- **Manufacturer:**
Kuraray Medical Inc.
1621 Sakazu, Kurashiki, Okayama 710-0801,
Japan
- **Supplier:**
Kuraray America, Inc.
600 Lexington Avenue, 26th Floor, New York,
NY 10022 U.S.A.
Tel: 800-879-1676
Fax: 888-700-5200
Website: www.kuraraydental.com
- **Information department:** Supplier

2 Composition/Data on components

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

- **Dangerous components:**

80-62-6	methyl methacrylate	Danger:  2.6/2	< 10%
		Warning:  3.2/2, 3.4.S/1, 3.8/3	

- **Other ingredients:**
Aliphatic hexaacrylate
Initiators

3 Hazards identification

- **Hazard description:**



Irritant
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.
May cause sensitisation by skin contact.
- **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

(Contd. on page 2)

Trade name: SURFACE COAT

(Contd. of page 1)

· **GHS label elements**



Danger

2.6/2 - Highly flammable liquid and vapour.



Warning

3.4/1 - May cause an allergic skin reaction.

· **Prevention:**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/ equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

· **Response:**

IF ON SKIN: Wash with plenty of soap and water.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

Specific treatment (see label).

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

In case of fire: Use for extinction: CO2, powder or water spray.

· **Storage:**

Store in a well-ventilated place. Keep cool.

· **Disposal:**

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

4 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 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.

5 Fire fighting measures

· **Suitable extinguishing agents:** CO2, sand, extinguishing powder. Do not use water.

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **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.

(Contd. on page 3)

Printing date 10/02/2008

Reviewed on 10/01/2008

Trade name: SURFACE COAT

(Contd. of page 2)

- **Measures for environmental protection:** 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.
Do not flush with water or aqueous cleansing agents

7 Handling and storage

- **Handling:**
- **Information for safe handling:**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **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 cool location (2-25°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:**

80-62-6 methyl methacrylate

PEL	410 mg/m ³ , 100 ppm
REL	410 mg/m ³ , 100 ppm
TLV	Short-term value: 410 mg/m ³ , 100 ppm Long-term value: 205 mg/m ³ , 50 ppm
SEN	

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

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- **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:	Colorless
Odor:	Slightly methacrylate odor

· Change in condition

Melting point/Melting range:	-48 °C (methyl methacrylate)
Boiling point/Boiling range:	101 °C (methyl methacrylate)

· **Flash point:** 10 °C (methyl methacrylate)

· **Ignition temperature:** 430.0 °C (methyl methacrylate)

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· Explosion limits:

Lower:	2.1 Vol % (methyl methacrylate)
Upper:	12.5 Vol % (methyl methacrylate)

· **Vapor pressure:** 47.0 hPa (20°C, methyl methacrylate)

· **Density:** 1.2 g/cm³
· **Vapour density:** Not applicable

· **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.

· **pH-value:** Not applicable

· **Segregation coefficient (n-octanol/water):** Not applicable

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

11 Toxicological information

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

80-62-6 methyl methacrylate

Oral	LD50	3625 mg/kg (mouse)
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		7872 mg/kg (rat)
Dermal	LD50	5945 mg/kg (mouse)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No 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

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.

14 Transport information

- **DOT regulations:**
- **Hazard class:** 3
- **Identification number:** UN1247
- **Packing group:** II
- **Proper shipping name (technical name):** METHYL METHACRYLATE MONOMER, STABILIZED, solution
- **Label:** 3

- **Land transport ADR/RID (cross-border):**
- **ADR/RID class:** 3 Flammable liquids
- **Danger code (Kemler):** 339
- **UN-Number:** 1247
- **Packaging group:** II
- **Label:** 3
- **Description of goods:** 1247 METHYL METHACRYLATE MONOMER, STABILIZED, solution

- **Maritime transport IMDG:**
- **IMDG Class:** 3
- **UN Number:** 1247
- **Label:** 3
- **Packaging group:** II
- **EMS Number:** F-E,S-D
- **Marine pollutant:** No
- **Propper shipping name:** METHYL METHACRYLATE MONOMER, STABILIZED, solution

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- **Air transport ICAO-TI and IATA-DGR:**
- **ICAO/IATA Class:** 3
- **UN/ID Number:** 1247
- **Label:** 3
- **Packaging group:** II
- **Propper shipping name:** METHYL METHACRYLATE MONOMER, STABILIZED, solution

- **UN "Model Regulation":**
UN1247; METHYL METHACRYLATE MONOMER, STABILIZED, solution; 3; II

15 Regulations

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

All ingredients are 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)**

80-62-6	methyl methacrylate	E;NL
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· **IARC (International Agency for Research on Cancer)**

80-62-6	methyl methacrylate	3
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· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

80-62-6	methyl methacrylate	A4
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· **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.

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· Hazard symbols:Irritant
Highly flammable**· Hazard-determining components of labelling:**

methyl methacrylate

· Risk phrases:Highly flammable.
May cause sensitisation by skin contact.**· Safety phrases:**Keep container in a well-ventilated place.
Keep away from sources of ignition - No smoking.
Avoid contact with skin.
Take precautionary measures against static discharges.
Wear suitable gloves.
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: 2**· Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Reglement internationale concernent le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
ACGIH: American Conference of Governmental Industrial Hygienists
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

USA