

Printing date 05/07/2012 Reviewed on 04/01/2012

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

· Product identifier

· Trade name: PANAVIA F 2.0; PASTE A

· Article number: US089-PA

- · Application of the substance / the preparation Resin-based dental adhesive cement
- · 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

2 Composition/information on ingredients

- · Chemical characterization: Single Component
- **Description:** Mixture of substances listed below with nonhazardous additions.
- · Dangerous components: Void
- · Other ingredients:

10-Methacryloyloxydecyl dihydrogen phosphate

Hydrophobic aromatic dimethacrylate

Hydrophobic aliphatic methacrylate

Hydrophilic aliphatic dimethacrylate

Silanated silica filler

Silanated colloidal silica

dl-Camphorquinone

Catalysts Initiators

Others

3 Hazards identification

· Classification of the substance or mixture

The product is not classified according to the Globally Harmonized System (GHS).

- · Classification according to Directive 67/548/EEC or Directive 1999/45/EC Not applicable.
- · Information concerning particular hazards for human and environment:

The product does not have to be labelled due to the calculation procedure of international guidelines.

· Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- · Label elements
- · GHS label elements Void
- · Hazard pictograms Void
- · Signal word Void
- · Hazard statements Void

(Contd. on page 2)

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Material Safety Data Sheet acc. to ISO/DIS 11014

Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: PANAVIA F 2.0; PASTE A

· Classification system:

· NFPA ratings (scale 0 - 4)



· HMIS-ratings (scale 0 - 4)



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: If symptoms persist consult doctor.

5 Firefighting measures

- · 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.
- · Protective equipment: No special measures required.

6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Not required.
- Environmental precautions: No special measures required.
- · Methods and material for containment and cleaning up: Pick up mechanically.
- · **Reference to other sections** No dangerous substances are released.

7 Handling and storage

- · Handling:
- · Precautions for safe handling No special measures required.
- · Information about protection against explosions and fires: No special measures required.
- · Storage:
- · Requirements to be met by storerooms and receptacles: Store in a refrigerator (2-8°C).
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: None.
- \cdot $Specific\ end\ use(s)$ No further relevant information available.

8 Exposure controls/personal protection

- $\cdot \textbf{Additional information about design of technical systems:} \ No \ further \ data; see \ item \ 7.$
- 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.

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Trade name: PANAVIA F 2.0; PASTE A

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- · Personal protective equipment:
- · General protective and hygienic measures:

The usual precautionary measures for handling chemicals should be followed.

- · 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: Not required.

General Information	
· Appearance: Form:	Pasty
Color:	Colored
· Odor:	Odorless
· pH-value:	Not applicable
· Change in condition	
Melting point/Melting range:	Undetermined.
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:	2.2 g/cm³ (18.359 lbs/gal)
Vapour density	Not applicable
· Solubility in / Miscibility with	
Water:	Insoluble.
· Segregation coefficient (n-octonol/water)	: Not applicable
· Other information	No further relevant information available.

10 Stability and reactivity

· Thermal decomposition / conditions to be avoided:

No decomposition if used and stored according to specifications.

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Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: PANAVIA F 2.0; PASTE A

(Contd. of page 3)

- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: Carbon monoxide and carbon dioxide

11 Toxicological information

- · Acute toxicity:
- · Primary irritant effect:
- · on the skin: No irritant effect.
- · on the eye: No irritating effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

- · 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.
- · Additional ecological information:
- · General notes: Generally not hazardous for water

13 Disposal considerations

- · Waste treatment methods
- · Recommendation: Smaller quantities can be disposed of with household waste.
- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

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

(Contd. on page 5)



Trade name: PANAVIA F 2.0; PASTE A

(Contd. of page 4)

· UN "Model Regulation":

15 Regulatory information

- ·Sara
- · Section 355 (extremely hazardous substances):

All ingredients are 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:

All ingredients are listed.

· Chemicals known to cause reproductive toxicity for females:

All ingredients are listed.

· Chemicals known to cause reproductive toxicity for males:

All ingredients are listed.

· Chemicals known to cause developmental toxicity:

All ingredients are listed.

- · 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.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

All ingredients are listed.

· OSHA-Ca (Occupational Safety & Health Administation)

All ingredients are 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.

- · Version: 5
- · Relevant phrases Not applicable



Printing date 05/07/2012 Reviewed on 04/01/2012

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

· Product identifier

· Trade name: PANAVIA F 2.0; OXYGUARD II

· Article number: US071

- · Application of the substance / the preparation Dental material for curing promotion and surface protection
- · 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

2 Composition/information on ingredients

- · Chemical characterization: Single Component
- · Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous	components:
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	•		
56-81-5	glycerol	♦ H310; H303	50-70%
25322-68-3	Polyethylene glycol		20-40%

· Other ingredients:

Catalysts

Accelerators

Dyes

Others

3 Hazards identification

· Classification of the substance or mixture



GHS06 Skull and crossbones

H310 Fatal in contact with skin.

- · Classification according to Directive 67/548/EEC or Directive 1999/45/EC Not applicable.
- · Information concerning particular hazards for human and environment:

The product does not have to be labelled due to the calculation procedure of international guidelines.

· Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- · Label elements
- · GHS label elements

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

- · Hazard pictograms GHS06
- · Signal word Danger
- · Hazard statements

H310 Fatal in contact with skin.

· Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P310 Immediately call a POISON CENTER or doctor/physician.

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Trade name: PANAVIA F 2.0; OXYGUARD ||

(Contd. of page 1)

P361 Remove/Take off immediately all contaminated clothing.

P322 Specific measures (see on this label).

P405 Store locked up.

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

- · Classification system:
- · NFPA ratings (scale 0 4)



Health = 0

Fire = 1Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Fire = 1

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 eve contact: Rinse opened eye for several minutes under running water.
- · After swallowing: If symptoms persist consult doctor.

5 Firefighting measures

- · Suitable extinguishing agents: Use fire fighting measures that suit the environment.
- · Special hazards arising from the substance or mixture No further relevant information available.
- · Protective equipment: No special measures required.

6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Not required.
- · 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).
- · Reference to other sections No dangerous substances are released.

7 Handling and storage

- · Handling:
- · Precautions for safe handling No special measures required.
- · Information about protection against explosions and fires: No special measures required.
- · Storage:
- Requirements to be met by storerooms and receptacles: Store in a refrigerator (2-8°C).
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: None.
- · Specific end use(s) No further relevant information available.



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Trade name: PANAVIA F 2.0; OXYGUARD ||

(Contd. of page 2)

8 Exposure controls/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:

56-81-5 glycerol

PEL 15* 5** mg/m³

*total dust **respirable fraction

TLV 10 ppm

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

The usual precautionary measures for handling chemicals should be followed.

- · 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: Goggles recommended during refilling.

9 Physical and chemical properties

· General Information · Appearance:	
Form:	Gel
Color:	Green
· Odor:	Odorless
· pH-value:	Not applicable
 Change in condition Melting point/Melting range: Boiling point/Boiling range: 	18.2 °C (glycerol) 290 °C (glycerol)
· Flash point:	160 °C (glycerol)
· Ignition temperature:	400.0 °C (glycerol)
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	0.9 Vol % (glycerol)
Upper:	Not applicable
· Vapor pressure:	0.1 hPa (20°C, glycerol)
· Density:	Not determined.
· Vapour density	Not applicable

(Contd. on page 4)



Trade name: PANAVIA F 2.0; OXYGUARD ||

(Contd. of page 3)

· Solubility in / Miscibility with

Water: Fully miscible.

- · Segregation coefficient (n-octonol/water): Not applicable
- No further relevant information available. · Other information

10 Stability and reactivity

- \cdot Thermal decomposition / conditions to be avoided:
- No decomposition if used and stored according to specifications.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: Carbon monoxide and carbon dioxide

11 Toxicological information

- · Acute toxicity:
- · Primary irritant effect:
- · on the skin: No irritant effect.
- · on the eye: No irritating effect.
- · **Sensitization:** No sensitizing effects known.
- · Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

- · 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.
- · 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.

13 Disposal considerations

- · Waste treatment methods
- · **Recommendation:** Smaller quantities can be disposed of with household waste.
- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- · UN-Number
- · DOT, ADR, ADN, IMDG, IATA Void

(Contd. on page 5)



Trade name: PANAVIA F 2.0; OXYGUARD ||

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

15 Regulatory information

- ·Sara
- · Section 355 (extremely hazardous substances):

None of the ingredient is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· 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)

None of the ingredients is listed.

· IARC (International Agency for Research on Cancer)

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.

(Contd. on page 6)



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Trade name: PANAVIA F 2.0; OXYGUARD ||

(Contd. of page 5)

· OSHA-Ca (Occupational Safety & Health Administation)

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.

- \cdot Version: 4
- · Relevant phrases

Not applicable

H303 May be harmful if swallowed.

H310 Fatal in contact with skin.

IISA -



Printing date 05/07/2012 Reviewed on 04/01/2012

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

· Product identifier

· Trade name: PANAVIA 21; ED PRIMER Liquid B

· Article number: US050-EB

- · Application of the substance / the preparation Dental material for tooth surface conditioning
- · 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

2 Composition/information on ingredients

- · Chemical characterization: Single Component
- · **Description:** Mixture of substances listed below with nonhazardous additions.
- · Dangerous components: Void
- · Other ingredients:

N-Methacryloyl-5-aminosalicylic acid

Water Catalysts

Accelerators

3 Hazards identification

- · Classification of the substance or mixture
- The product is not classified according to the Globally Harmonized System (GHS).
- · Classification according to Directive 67/548/EEC or Directive 1999/45/EC Not applicable.
- · Information concerning particular hazards for human and environment:
- The product does not have to be labelled due to the calculation procedure of international guidelines.
- Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- · Label elements
- · GHS label elements Void
- · Hazard pictograms Void
- · Signal word Void
- · Hazard statements Void
- · Classification system:
- · NFPA ratings (scale 0 4)



(Contd. on page 2)



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Trade name: PANAVIA 21; ED PRIMER Liquid B

· HMIS-ratings (scale 0 - 4)

HEALTH 0 Health = 0FIRE 0 Fire = 0REACTIVITY 0 Reactivity = 0 (Contd. of page 1)

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: If symptoms persist consult doctor.

5 Firefighting measures

- · 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.
- · Protective equipment: No special measures required.

6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Not required.
- · Environmental precautions: Dilute with plenty of water.
- · Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

· Reference to other sections No dangerous substances are released.

7 Handling and storage

- · Handling
- · Precautions for safe handling No special measures required.
- · Information about protection against explosions and fires: No special measures required.
- · Storage:
- Requirements to be met by storerooms and receptacles: Store in a refrigerator (2-8°C).
- Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: None.
- · 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.
- · 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:

The usual precautionary measures for handling chemicals should be followed.

· Breathing equipment: Not required.

(Contd. on page 3)



Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: PANAVIA 21; ED PRIMER Liquid B

(Contd. of page 2)

· 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: Goggles recommended during refilling.

Q P	hysica	land	r	hem	വ	nro	nerti	ΔC
7 I	Hy Sica	1 and		10111	lea.	OLU	DCI U	CO

· General Information	
· Appearance:	
Form:	Liquid
Color:	Transparent
· Odor:	Odorless
· pH-value:	Not applicable
· Change in condition	
Melting point/Melting range:	Undetermined.
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:	1.0 g/cm ³ (8.345 lbs/gal)
· Vapour density	Not applicable
· Solubility in / Miscibility with	
Water:	Fully miscible.
· Segregation coefficient (n-octonol/wate	r): Not applicable
· Other information	No further relevant information available.

10 Stability and reactivity

- · Thermal decomposition / conditions to be avoided:
- No decomposition if used and stored according to specifications.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: Carbon monoxide and carbon dioxide

USA ·



Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: PANAVIA 21; ED PRIMER Liquid B

(Contd. of page 3)

11 Toxicological information

- · Acute toxicity:
- · Primary irritant effect:
- · on the skin: No irritant effect.
- · on the eye: No irritating effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

12 Ecological information

- · 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.
- · Additional ecological information:
- · General notes: Generally not hazardous for water

13 Disposal considerations

- · Waste treatment methods
- **Recommendation:** Smaller quantities can be disposed of with household waste.
- · Uncleaned packagings:
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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

(Contd. on page 5)



Trade name: PANAVIA 21; ED PRIMER Liquid B

(Contd. of page 4)

· UN "Model Regulation":

15 Regulatory information

- ·Sara
- · Section 355 (extremely hazardous substances):

None of the ingredient is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· 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)

None of the ingredients is listed.

· IARC (International Agency for Research on Cancer)

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 Administation)

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.

· Version: 4



Printing date 05/07/2012

Reviewed on 04/01/2012

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

· Product identifier

· Trade name: PANAVIA 21; ED PRIMER Liquid A

· Article number: US050-EA

- · Application of the substance / the preparation Dental material for tooth surface conditioning
- · 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

2 Composition/information on ingredients

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

868-77-9 2-hydroxyethyl methacrylate

H315; H319; H317

30-50%

Other ingredients:

10-Methacryloyloxydecyl dihydrogen phosphate

N-Methacryloyl-5-aminosalicylic acid

Water

Accelerators

3 Hazards identification

· Classification of the substance or mixture



H315 Causes skin irritation.

H319 Causes serious eye irritation.

May cause an allergic skin reaction.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC



X Irritant

<u>Irritating</u> to eyes and skin. May cause sensitisation by skin contact.

Information concerning particular hazards for human and environment:

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

Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- · Label elements
- · GHS label elements

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

- · Hazard pictograms GHS07
- · Signal word Warning

(Contd. on page 2)



Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: PANAVIA 21; ED PRIMER Liquid A

(Contd. of page 1)

· Hazard-determining components of labelling:

2-hydroxyethyl methacrylate

· 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.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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).

P362 Take off contaminated clothing and wash before reuse.

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

regulations.

- · Classification system:
- · NFPA ratings (scale 0 4)



Health = 1 Fire = 1Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 1 Fire = 1Reactivity = 0

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 Firefighting measures

· 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.
- · Protective equipment:

Wear self-contained respiatory protective device.

Wear fully protective suit.

6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Not required.
- · Environmental precautions:

Dilute with plenty of water.

(Contd. on page 3)



Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: PANAVIA 21; ED PRIMER Liquid A

(Contd. of page 2)

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).

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

- · Handling:
- · Precautions for safe handling Ensure good ventilation/exhaustion at the workplace.
- · Information about protection against explosions and fires: No special measures required.
- · Storage:
- · Requirements to be met by storerooms and receptacles: Store in a refrigerator (2-8°C).
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep receptacle tightly sealed.
- · 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.
- · 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.

(Contd. on page 4)

(Contd. of page 3)



Material Safety Data Sheet acc. to ISO/DIS 11014

Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: PANAVIA 21; ED PRIMER Liquid A

 \cdot Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· General Information	
· Appearance:	
Form:	Liquid
Color:	Transparent
· Odor:	Odorless
· pH-value:	Not applicable
· Change in condition	
Melting point/Melting range:	-12 °C (2-hydroxyethyl methacrylate)
Boiling point/Boiling range:	205 °C (2-hydroxyethyl methacrylate)
0.	, , ,
· Flash point:	97 °C (2-hydroxyethyl methacrylate)
· 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:	1.1 g/cm³ (9.18 lbs/gal)
· Vapour density	Not applicable
· Solubility in / Miscibility with	
Water:	Partly miscible.
· Segregation coefficient (n-octonol/water)	: Not applicable

No further relevant information available.

10 Stability and reactivity

 $\cdot \ \, \textbf{Other information}$

- \cdot Thermal decomposition / conditions to be avoided:
- No decomposition if used and stored according to specifications.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: Carbon monoxide and carbon dioxide

11 Toxicological information

· Acute toxicity:

· Acut	e toxic	ity:
· LD/LC50 values that are relevant for classification:		
868-	77-9 2-	hydroxyethyl methacrylate
Oral	LD50	4680 mg/kg (guinea pig)
		3275 mg/kg (mouse)
		5050 mg/kg (rat)

(Contd. on page 5)



Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: PANAVIA 21; ED PRIMER Liquid A

(Contd. of page 4)

- · 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

12 Ecological information

- · 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.
- · 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.

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.

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

USA



Trade name: PANAVIA 21; ED PRIMER Liquid A

(Contd. of page 5)

15 Regulatory information

- ·Sara
- · Section 355 (extremely hazardous substances):

None of the ingredient is listed.

· Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

· 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)

None of the ingredients is listed.

· IARC (International Agency for Research on Cancer)

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 Administation)

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.

- · Version: 4
- · Relevant phrases

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.



Printing date 05/07/2012 Reviewed on 04/01/2012

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

· Product identifier

· Trade name: PANAVIA F 2.0; PASTE B (TC, White, Light, Opaque)

· Article number: US089-PB

- · Application of the substance / the preparation Resin-based dental adhesive cement
- · 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

2 Composition/information on ingredients

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

7681-49-4 sodium fluoride

🛞 H301; 🕔 H315; H319

< 10%

· Other ingredients:

Hydrophobic aromatic dimethacrylate

Hydrophobic aliphatic methacrylate

Hydrophilic aliphatic dimethacrylate

Silanated barium glass filler

Catalysts

Accelerators

Pigments

Others

3 Hazards identification

· Classification of the substance or mixture



H302 Harmful if swallowed.

· Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Harmful if swallowed.

Contact with acids liberates toxic gas.

 \cdot Information concerning particular hazards for human and environment:

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

Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- · Label elements
- · GHS label elements

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

(Contd. on page 2)



Trade name: PANAVIA F 2.0; PASTE B (TC, White, Light, Opaque)

(Contd. of page 1)

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

sodium fluoride

· Hazard statements

H302 Harmful if swallowed.

· Precautionary statements

P264 Wash thoroughly after handling.

P270 Do no eat, drink or smoke when using this product.

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P330 Rinse mouth.

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

regulations.

- · Classification system:
- · NFPA ratings (scale 0 4)



Health = 2Fire = 0Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 2Fire = 0Reactivity = 0

4 First aid measures

· General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

- · 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: Immediately call a doctor.

5 Firefighting measures

· 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.
- · Protective equipment:

Mouth respiratory protective device.

Wear fully protective suit.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

- Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- · Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to item 13.

· Reference to other sections

See Section 7 for information on safe handling.

(Contd. on page 3)



Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: PANAVIA F 2.0; PASTE B (TC, White, Light, Opaque)

(Contd. of page 2)

See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

7 Handling and storage

- · Handling:
- · Precautions for safe handling Prevent formation of dust.
- · Information about protection against explosions and fires: No special measures required.
- ·Storage
- Requirements to be met by storerooms and receptacles: Store in a refrigerator (2-8°C).
- · Information about storage in one common storage facility:

Do not store together with acids.

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.

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

7681-49-4 sodium fluoride

PEL	2.5 mg/m ³
	as F
REL	2.5 mg/m ³
	as F
TLV	2.5 mg/m ³
	as F. BEI

- · 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:

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:

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.

(Contd. on page 4)



Printing date 05/07/2012 Reviewed on 04/01/2012

Trade name: PANAVIA F 2.0; PASTE B (TC, White, Light, Opaque)

· Eye protection: Not required.

(Contd. of page 3)

General Information	
Appearance:	
Form:	Pasty
Color:	Colored
Odor:	Odorless
pH-value:	Not applicable
Change in condition	
Melting point/Melting range:	1012 °C (sodium fluoride)
Boiling point/Boiling range:	1704 °C (sodium fluoride)
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:	2.0 g/cm ³ (16.69 lbs/gal)
Vapour density	Not applicable
Solubility in / Miscibility with	
Water:	Insoluble.
Segregation coefficient (n-octonol/wa	ater): Not applicable
Other information	No further relevant information available.

10 Stability and reactivity

- · Thermal decomposition / conditions to be avoided:
- No decomposition if used and stored according to specifications.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: Carbon monoxide and carbon dioxide

11 Toxicological information

· Acute toxicity:

· LD/I	LC50 v	alues that are r	elevant for classificatio	n:	
7681	-49-4 s	odium fluoride			

		0414111 114101141
Oral	LD50	44 mg/kg (mouse)
		52 mg/kg (rat)

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

(Contd. on page 5)



Trade name: PANAVIA F 2.0; PASTE B (TC, White, Light, Opaque)

(Contd. of page 4)

· Additional toxicological information:

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

Harmful

12 Ecological information

- · 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.
- · 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.

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.

UN-Number	
DOT, ADR, ADN, IMDG, IATA	Void
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	Void
Transport hazard class(es)	
DOT, ADR, ADN, IMDG, IATA Class	Void
Packing group DOT, ADR, 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	of Not applicable.
UN "Model Regulation":	_

15 Regulatory information

- · Sara
- · Section 355 (extremely hazardous substances):

None of the ingredient is listed.

(Contd. on page 6)



Trade name: PANAVIA F 2.0; PASTE B (TC, White, Light, Opaque)

(Contd. of page 5)

· 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)

None of the ingredients is listed.

· IARC (International Agency for Research on Cancer)

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 Administation)

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.

- · Version: 5
- · Relevant phrases

Not applicable

H301 Toxic if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.