



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Identification of the substance or preparation

3M ESPE Silorane Adhesive Primer

3M Product identification numbers
70-2010-5375-1 70-2010-5390-0

1.2 Use of substance/preparation

Dental product

1.3 Company/undertaking identification

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4 Emergency telephone number

+44 (0)1344 858 000

2. HAZARDS IDENTIFICATION

Indication of danger

Irritant.
Flammable

Risk phrases

R10	Flammable.
R43	May cause sensitisation by skin contact.
R52/53	Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Other hazards

Closed containers exposed to heat from fire may build pressure and explode. Vapours may travel long distances along the ground or floor to an ignition source and flash back.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Bisphenol A diglycidyl ether dimethacrylate (BISGMA)	1565-94-2	EINECS 216-367-7	15 - 25	R43 (3M)
2-Hydroxyethyl methacrylate	868-77-9	EINECS 212-782-2	15 - 25	Xi:R36-38; R43 - Nota D (EU)
Ethanol	64-17-5	EINECS 200-578-6	10 - 15	F:R11 (EU)
Water	7732-18-5	EINECS 231-791-2	10 - 15	
Phosphoric acid-methacryloxy-hexylesters	Mixture		5 - 15	
2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, reaction products with vitreous silica	122334-95-6	EINECS 310-178-4	8 - 12	
1,6-Hexanediyl bismethacrylate	6606-59-3	EINECS 229-551-7	5 - 10	
(DIMETHYLAMINO)ETHYL METHACRYLATE	2867-47-2	EINECS 220-688-8	< 5	Xn:R21-22; Xi:R36-38; R43 - Nota D (EU)
2-Propenoic acid, polymer with methylenebutanedioic acid	25948-33-8		< 5	
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	EINECS 278-355-8	< 3	Repr.Cat.3:R62; N:R51/53 (3M)
dl-Camphorquinone	10373-78-1	EINECS 233-814-1	< 3	N:R50/53 (3M)

Please see section 16 for the full text of any R Phrases referred to under heading 3 of this safety data sheet
Please refer to section 15 for the any applicable Notas that have been applied to the above components

4. FIRST AID MEASURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Inhalation

Remove person to fresh air. If signs/symptoms develop, get medical attention.

Skin contact

Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Eye contact

Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

Ingestion

Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Use fire extinguishers with class B extinguishing agents (e.g. dry chemical, carbon dioxide).

Unsuitable extinguishing media

Special exposure hazards

Flammable liquid and vapour. Closed containers exposed to heat from fire may build pressure and explode.

Special instructions for firefighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective equipment and a self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Remove all ignition sources such as flames, smoking materials, and electrical spark sources. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, in accordance with good industrial hygiene practice. Warning: A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard. Cover, but do not seal for 48 hours.

Environmental procedures

For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water. Collect the resulting residue containing solution. Place in a metal container approved for use in transportation by appropriate authorities. The container must be lined with polyethylene plastic or contain a plastic drum liner made of polyethylene. Dispose of collected material as soon as possible.

Methods for cleaning up

Refer to other sections of this Safety Data Sheet for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Contain spill. Cover spill area with a fire-extinguishing foam. An aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible using non-sparking tools. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet.

7. HANDLING & STORAGE

7.1 Handling

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Keep away from

heat, sparks, open flame, pilot lights and other sources of ignition. No smoking while handling this material. Avoid inhalation of vapours, mists or spray. Avoid static discharge. A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. Acrylates may penetrate commonly-used gloves. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove. Avoid eye contact. Avoid inhalation of vapours. Avoid skin contact. Wash hands after handling and before eating.

7.2 Storage

Store away from heat. Store out of direct sunlight. Keep container in a well-ventilated area. Keep container tightly closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Exposure limit values**

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Ethanol	64-17-5	Health and Safety Comm. (UK)	TWA:1920 mg/m ³ (1000 ppm)	

Health and Safety Comm. (UK) : UK Health and Safety Commission

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

ppm: parts per million

mg/m³: milligrams per cubic metre

CEIL: Ceiling

8.2 Exposure controls**8.2.1 Occupational exposure controls**

Use with appropriate local exhaust ventilation. Provide appropriate local exhaust ventilation on open containers. Use in an enclosed process area is recommended. Use in a well-ventilated area.

Respiratory protection

Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection. Avoid inhalation of vapours, mists or spray.

Hand protection**Eye/face protection**

Avoid eye contact.

The following eye protection(s) are recommended: Safety glasses with side shields.

Skin protection

Avoid skin contact.

Ingestion

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Not applicable.
Do not ingest. Wash hands after handling and before eating.

8.2.2 Environmental exposure controls

No data available.

9. PHYSICAL/CHEMICAL PROPERTIES**9.1 General information****Physical state**

Liquid.

Appearance/Odour

viscous, yellow liquid, characteristic odor

9.2 Important health safety and environmental information**pH**

Not applicable.

Boiling point/boiling range

≥ 78 °C

Melting point

No data available.

Flammability (solid, gas)

Not available.

Explosive properties

Not determined.

Oxidising properties

Not determined.

Flash point

34 °C [Test Method: Closed Cup]

Flammable limits - LEL

No data available.

Flammable limits - UEL

No data available.

Vapour pressure

≤ 1999.8 Pa

Relative density

1 - 1.2 [Ref Std: WATER=1]

Water solubility

Appreciable

Partition coefficient: n-octanol/water

No data available.

Evaporation rate

No data available.

Vapour density

No data available.

Density

1 - 1.2 g/cm³

9.3 Other information**10. STABILITY & REACTIVITY**

Stable. Hazardous polymerisation will not occur.

10.1 Conditions to avoid

Heat.

10.2 Materials to avoid

None known.

10.3 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Irritant vapours or gases.	During combustion.

11. TOXICOLOGICAL INFORMATION

Inhalation

Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May be absorbed following inhalation and cause target organ effects.

Ingestion

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May be absorbed following ingestion and cause target organ effects.

Eye contact

Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Skin contact

Moderate skin irritation: Signs/symptoms may include localised redness, swelling, itching, and dryness. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Other health effects

Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause:

Liver effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

12. ECOLOGICAL INFORMATION

A conservative assessment indicates this product presents a low environmental risk because use and disposal are unlikely to

3M ESPE Silorane Adhesive Primer

result in the significant release of components to the environment.

12.1 Ecotoxicity

No product test data available.

No component test data available.

12.2 Mobility

Please contact 3M for more details.

12.3 Persistence and degradability

No test data available.

12.4 Bioaccumulative potential

No test data available.

12.5 Results of PBT assessment

No data available at this time, contact 3M for more details.

12.6 Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste disposal method: Incinerate in a permitted hazardous waste incinerator. As a disposal alternative, dispose of waste product in a permitted hazardous waste facility.

Since regulations vary, consult applicable regulations or authorities before disposal.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

180110* Amalgam waste from dental care

14. TRANSPORTATION INFORMATION

70-2010-5375-1, 70-2010-5390-0

ADR/RID: UN1133, ADHESIVES, LIMITED QUANTITY, 3., III, (–), ADR Classification Code: F1.

IMDG-CODE: UN1133, ADHESIVES, 3, III, LIMITED QUANTITY, EMS: FE,SD.

ICAO/IATA: DANGEROUS GOODS IN EXCEPTED QUANTITIES OF CLASS 3,UN1133.

15. REGULATORY INFORMATION

Symbols

Xi

Irritant.

Contains:

(DIMETHYLAMINO)ETHYL METHACRYLATE; Bisphenol A diglycidyl ether dimethacrylate (BISGMA); 2-Hydroxyethyl methacrylate

Risk phrases

- | | |
|--------|---|
| R10 | Flammable. |
| R43 | May cause sensitisation by skin contact. |
| R52/53 | Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment. |

Safety phrases

- | | |
|-----|---|
| S24 | Avoid contact with skin. |
| S37 | Wear suitable gloves. |
| S61 | Avoid release to the environment. Refer to special instructions/safety data sheets. |

Special provisions concerning the labelling of certain substances

Notes on labelling

16. OTHER INFORMATION

List of relevant R-phrases

- | | |
|--------|--|
| R11 | Highly flammable. |
| R21 | Harmful in contact with skin. |
| R22 | Harmful if swallowed. |
| R36 | Irritating to eyes. |
| R38 | Irritating to skin. |
| R43 | May cause sensitisation by skin contact. |
| R50/53 | Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment. |
| R51/53 | Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment. |
| R62 | Possible risk of impaired fertility. |

Restrictions on use

For use by dental professionals only.

Global inventory status

Contact 3M for more information.

Revision information:

No revision information is available.

DISCLAIMER: The information on this Safety Data Sheet is based on 3M's experience and is correct to the best of 3M's knowledge at the date of publication. 3M does not accept liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M United Kingdom MSDSs are available at www.3M.com/uk



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Identification of the substance or preparation

3M™ ESPE™ Silorane System Adhesive Bond

3M Product identification numbers
70-2010-5376-9 70-2010-5391-8

1.2 Use of substance/preparation

Dental Product

1.3 Company/undertaking identification

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4 Emergency telephone number

+44 (0)1344 858 000

2. HAZARDS IDENTIFICATION

Indication of danger
Irritant.

Risk phrases
R43 May cause sensitisation by skin contact.
R52/53 Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Other hazards

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
(1-Methylethylidene)bis(4,1-phenyleneoxy-3,1-propanediyl) bismethacrylate	27689-12-9	EINECS 248-607-1	70 - 80	
2-Propenoic acid, 2-methyl-, 3-(trimethoxysilyl)propyl ester, reaction products with quartz	100402-78-6	EINECS 309-515-8	5 - 10	
TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)	109-16-0	EINECS 203-652-6	5 - 10	R43 (3M)
Phosphoric acid methacryloxy-hexylesters	Mixture		< 5	
1,6-Hexanediyl bismethacrylate	6606-59-3	EINECS 229-551-7	< 3	
dl-Camphorquinone	10373-78-1	EINECS 233-814-1	< 3	N:R50/53 (3M)

Please see section 16 for the full text of any R Phrases referred to under heading 3 of this safety data sheet
Please refer to section 15 for the any applicable Notas that have been applied to the above components

4. FIRST AID MEASURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Inhalation

Remove person to fresh air. If signs/symptoms develop, get medical attention.

Skin contact

Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Eye contact

Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Ingestion

Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Ordinary combustible material. Use fire extinguishers with class A extinguishing agents (e.g. water, foam).

Unsuitable extinguishing media

Special exposure hazards

Not applicable.

Special instructions for firefighters

Wear full protective equipment and a self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel.

Environmental procedures

Collect the resulting residue containing solution. Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

Methods for cleaning up

Please observe precautions from other sections of this Safety Data Sheet. Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet.

7. HANDLING & STORAGE

7.1 Handling

Avoid eye contact. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid inhalation of vapours, mists or spray. A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. Acrylates may penetrate commonly-used gloves. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove. Avoid inhalation of vapours. Avoid skin contact. Wash hands after handling and before eating.

7.2 Storage

Store away from heat. Store out of direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure limit values

No occupational exposure limit values exist for any of the components listed in Section 3 of this Safety Data Sheet.

8.2 Exposure controls

8.2.1 Occupational exposure controls

Use with appropriate local exhaust ventilation.

Respiratory protection

Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection. Avoid inhalation of vapours, mists or spray.

Hand protection**Eye/face protection**

Avoid eye contact.

The following eye protection(s) are recommended: Safety glasses with side shields.

Skin protection

Avoid skin contact.

Ingestion

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Do not ingest. Wash hands after handling and before eating.

8.2.2 Environmental exposure controls

No data available.

9. PHYSICAL/CHEMICAL PROPERTIES**9.1 General information**

Physical state	Liquid.
Appearance/Odour	yellow, viscous liquid, characteristic odour

9.2 Important health safety and environmental information

pH	<i>Not applicable.</i>
Boiling point/boiling range	> 119 °C
Melting point	<i>No data available.</i>
Flammability (solid, gas)	Not available.
Explosive properties	Not determined.
Oxidising properties	Not determined.
Flash point	119 °C [<i>Test Method:</i> Closed Cup]
Flammable limits - LEL	<i>No data available.</i>
Flammable limits - UEL	<i>No data available.</i>
Vapour pressure	<i>No data available.</i>
Relative density	1.1 - 1.3 [<i>Ref Std:</i> WATER=1]

Water solubility	Moderate
Partition coefficient: n-octanol/water	No data available.
Evaporation rate	No data available.
Vapour density	No data available.
Viscosity	No data available.
Density	1.1 - 1.3 g/cm3

9.3 Other information

10. STABILITY & REACTIVITY

Stable. Hazardous polymerisation will not occur.

10.1 Conditions to avoid

Heat.

10.2 Materials to avoid

Strong acids.
Strong bases.

10.3 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Irritant vapours or gases.	During combustion.

11. TOXICOLOGICAL INFORMATION

Inhalation

Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Ingestion

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.

Eye contact

Moderate eye irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin contact

Moderate skin irritation: Signs/symptoms may include localised redness, swelling, itching, and dryness. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

12. ECOLOGICAL INFORMATION

A conservative assessment indicates this product presents a low environmental risk because use and disposal are unlikely to result in the significant release of components to the environment.

12.1 Ecotoxicity

No product test data available.

No component test data available.

12.2 Mobility

Please contact 3M for more details.

12.3 Persistence and degradability

No test data available.

12.4 Bioaccumulative potential

No test data available.

12.5 Results of PBT assessment

No data available at this time, contact 3M for more details.

12.6 Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste disposal method: Dispose of completely cured (or polymerised) wastes in a sanitary landfill. Incinerate in an industrial or commercial facility. As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste.

Since regulations vary, consult applicable regulations or authorities before disposal.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

180110* Amalgam waste from dental care

14. TRANSPORTATION INFORMATION

70-2010-5376-9, 70-2010-5391-8

Not hazardous for transportation

15. REGULATORY INFORMATION

Symbols

Xi

Irritant.

Contains:

TRIETHYLENE GLYCOL DIMETHACRYLATE (TEGDMA)

Risk phrases

R43 May cause sensitisation by skin contact.
R52/53 Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Safety phrases

S24 Avoid contact with skin.
S37 Wear suitable gloves.
S61 Avoid release to the environment. Refer to special instructions/safety data sheets.

Special provisions concerning the labelling of certain substances

Notes on labelling

16. OTHER INFORMATION

List of relevant R-phrases

R43 May cause sensitisation by skin contact.
R50/53 Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Restrictions on use

For use by dental professionals only.

Global inventory status

Contact 3M for more information.

Revision information:

No revision information is available.

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combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

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