Safety Data Sheet

Document group:	30-2587-1	**Version number:**	1.00
Revision date:	02/06/2017	**Supersedes date:**	Initial issue.

Transportation version number: 1.00 (02/06/2017)

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

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

1.1. Product identifier
4720 3M™ ESPE™ Filtek™ P60 Posterior Syringe Intro Kit with Universal Etchant

Product Identification Numbers
70-2010-8698-3

7000054586

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Dental Product

Restrictions on Use
For use by dental professionals only.

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number
+44 (0)1344 858 000

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet for each of these components is included. Please do not separate the component Safety Data Sheets from this cover page. The document numbers of the MSDSs for components of this product are:

18-9028-4, 29-8286-6, 08-7419-8

TRANSPORTATION INFORMATION

70-2010-8698-3

Component 1
ADR/RID: DANGEROUS GOODS IN EXCEPTED QUANTITIES, CLASS 3, II , (--).
IMDG-CODE: UN1133, ADHESIVES, 3, II , IMDG-Code segregation code: NONE, Dangerous Goods in excepted Quantities, EMS: FE,SD.
ICAO/IATA: DANGEROUS GOODS IN EXCEPTED QUANTITIES OF CLASS 3,UN1133, II .

Component 2
ADR/RID: DANGEROUS GOODS IN EXCEPTED QUANTITIES, CLASS 8, III, (--).
IMDG-CODE: UN1805, PHOSPHORIC ACID SOLUTION, 8., III, IMDG-Code segregation code: NONE, Dangerous Goods in excepted Quantities, EMS: FA,SB.
ICAO/IATA: DANGEROUS GOODS IN EXCEPTED QUANTITIES OF CLASS 8,UN1805, III.

KIT LABEL

2.1. Classification of the substance or mixture
CLP REGULATION (EC) No 1272/2008

This product is a medical device as defined in Directive 93/42/EEC (MDD), which is invasive or used in direct physical contact with the human body, and therefore is exempt from the requirements of classification and labelling according to Regulation (EC) No. 1272/2008 (CLP; Article 1, paragraph 5). Although not required, the classification and label information, as applicable, is provided below.

CLASSIFICATION:
Substance or Mixture Corrosive to Metals, Category 1 - Met. Corr. 1; H290
Flammable Liquid, Category 2 - Flam. Liq. 2; H225
Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318
Skin Corrosion/Irritation, Category 1B - Skin Corr. 1B; H314
Skin Sensitization, Category 1B - Skin Sens. 1B; H317

For full text of H phrases, see Section 16.

2.2. Label elements
CLP REGULATION (EC) No 1272/2008

SIGNAL WORD
DANGER.

Symbols:
GHS02 (Flame) |GHS05 (Corrosion) | GHS07 (Exclamation mark) |

Pictograms

HAZARD STATEMENTS:

H290	May be corrosive to metals.
H225	Highly flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS

Prevention:

P210A	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260A	Do not breathe vapours.
P280D	Wear protective gloves, protective clothing, and eye/face protection.

Response:

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTRE or doctor/physician.

Revision information:

No revision information

Safety Data Sheet

Document group:	18-9028-4	**Version number:**	13.00
Revision date:	02/06/2017	**Supersedes date:**	02/09/2016

Transportation version number: 1.00 (26/07/2011)

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

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

1.1. Product identifier
3M ESPE ADPER SCOTCHBOND 1 XT

Product Identification Numbers
70-2010-3675-6

7000054284

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Dental Product

Restrictions on Use
For use only by dental professionals

1.3. Details of the supplier of the safety data sheet
Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number
+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
CLP REGULATION (EC) No 1272/2008

This product is a medical device as defined in Directive 93/42/EEC (MDD), which is invasive or used in direct physical contact with the human body, and therefore is exempt from the requirements of classification and labelling according to Regulation (EC) No. 1272/2008 (CLP; Article 1, paragraph 5). Although not required, the classification and label information, as applicable, is provided below.

CLASSIFICATION:
Flammable Liquid, Category 2 - Flam. Liq. 2; H225
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Skin Sensitization, Category 1B - Skin Sens. 1B; H317

For full text of H phrases, see Section 16.

2.2. Label elements
CLP REGULATION (EC) No 1272/2008

SIGNAL WORD
DANGER.

Symbols:
GHS02 (Flame) |GHS07 (Exclamation mark) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	% by Wt
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	1565-94-2	10 - 20
2-Hydroxyethyl methacrylate	868-77-9	5 - 15
2-Hydroxy-1,3-propanediyl bismethacrylate	1830-78-0	5 - 10
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	1 - 5

HAZARD STATEMENTS:

H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS

Prevention:

P210A	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280E	Wear protective gloves.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P370 + P378G	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

2.3. Other hazards

For information on hazards and safe use, please consider the corresponding sections of this document.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
Ethanol	64-17-5	200-578-6		25 - 35	Flam. Liq. 2, H225 Eye Irrit. 2, H319
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	1565-94-2	216-367-7		10 - 20	Skin Sens. 1B, H317
Amorphous silica (7631-86-9) surface modified with organofunctional silane and methacryloxypropyltrimethoxysilane (2530-85-0)	None			10 - 20	Substance not classified as hazardous
2-Hydroxyethyl methacrylate	868-77-9	212-782-2	01-2119490169-29	5 - 15	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317 - Nota D
2-Hydroxy-1,3-propanediyl bismethacrylate	1830-78-0	217-388-4		5 - 10	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335
2-Propenoic acid, polymer with methylenebutanedioic acid	25948-33-8			5 - 10	Substance not classified as hazardous
Non-Hazardous Ingredients	Mixture			< 5	Substance not classified as hazardous
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	276-957-5		1 - 5	Skin Sens. 1B, H317
Diphenyliodonium hexafluorophosphate	58109-40-3	261-134-5		< 1	Acute Tox. 2, H300
Ethyl 4-dimethylaminobenzoate	10287-53-3	233-634-3		< 1	Substance not classified as hazardous

Please see section 16 for the full text of any H statements referred to in this section

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
Remove person to fresh air. If you feel unwell, get medical attention.

Skin contact
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye contact
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If swallowed
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

See Section 11.1 Information on toxicological effects

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Extinguishing media
In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.

5.3. Advice for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. 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. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Contain spill. Collect as much of the spilled material as possible using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. 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. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections
Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling
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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store away from heat. Store away from acids. Store away from oxidising agents.

7.3. Specific end use(s)
See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Ethanol	64-17-5	UK HSC	TWA:1920 mg/m³(1000 ppm)	

UK HSC : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

Biological limit values
No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

Derived no effect level (DNEL)

Ingredient	Degradation Product	Population	Human exposure pattern	DNEL
2-Hydroxyethyl methacrylate		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	1.3 mg/kg bw/d
2-Hydroxyethyl methacrylate		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	4.9 mg/m³

Predicted no effect concentrations (PNEC)

Ingredient	Degradation Product	Compartment	PNEC
2-Hydroxyethyl methacrylate		Agricultural soil	0.476 mg/kg d.w.
2-Hydroxyethyl methacrylate		Freshwater	0.482 mg/l
2-Hydroxyethyl methacrylate		Freshwater sediments	3.79 mg/kg d.w.
2-Hydroxyethyl methacrylate		Intermittent releases to water	1 mg/l
2-Hydroxyethyl methacrylate		Marine water	0.482 mg/l
2-Hydroxyethyl methacrylate		Marine water sediments	3.79 mg/kg d.w.
2-Hydroxyethyl methacrylate		Sewage Treatment Plant	10 mg/l

8.2. Exposure controls

In addition, refer to the annex for more information.

8.2.1. Engineering controls
Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety glasses with side shields.

Skin/hand protection
See Section 7.1 for additional information on skin protection.

Respiratory protection
None required.

8.2.3. Environmental exposure controls
Refer to Annex

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Liquid.
Appearance/Odour	Slight acrylate odour, white to clear
Odour threshold	*No data available.*
pH	*No data available.*
Boiling point/boiling range	78 ºC
Melting point	*Not applicable.*
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	18.5 ºC [*Test Method:*Closed Cup]
Autoignition temperature	410 ºC
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*No data available.*
Relative density	1.075 [*Ref Std:*WATER=1]
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*Not applicable.*
Evaporation rate	*No data available.*
Vapour density	*No data available.*
Decomposition temperature	*No data available.*
Viscosity	*No data available.*
Density	1.075 g/ml

9.2. Other information

Molecular weight	*No data available.*
Percent volatile	*No data available.*

SECTION 10: Stability and reactivity

10.1 Reactivity
This material is considered to be non reactive under normal use conditions

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
Heat.
Sparks and/or flames.

10.5 Incompatible materials
None known.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation
Exposures needed to cause the following health effect(s) are not expected during normal, intended use:
Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.
May cause additional health effects (see below).

Skin contact
May be harmful in contact with skin. Mild 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.

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

Ingestion

May be harmful if swallowed.
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.
May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Exposures needed to cause the following health effect(s) are not expected during normal, intended use:
Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Additional information:
This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified by the International Agency for Research on Cancer as carcinogenic to humans. There are also data associating human consumption of alcoholic beverages with developmental toxicity and liver toxicity. Exposure to ethanol during the foreseeable use of this product is not expected to cause cancer, developmental toxicity, or liver toxicity.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE2,000 - 5,000 mg/kg
Overall product	Dermal	Rabbit	LD50 > 2,000 mg/kg
Ethanol	Dermal	Rabbit	LD50 > 15,800 mg/kg
Ethanol	Inhalation-Vapour (4 hours)	Rat	LC50 124.7 mg/l
Ethanol	Ingestion	Rat	LD50 17,800 mg/kg
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
Amorphous silica (7631-86-9) surface modified with organofunctional silane and methacryloxypropyltrimethoxysilane (2530-85-0)	Dermal	Rabbit	LD50 > 5,000 mg/kg
Amorphous silica (7631-86-9) surface modified with organofunctional silane and methacryloxypropyltrimethoxysilane (2530-85-0)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Amorphous silica (7631-86-9) surface modified with organofunctional silane and methacryloxypropyltrimethoxysilane (2530-85-0)	Ingestion	Rat	LD50 > 5,110 mg/kg
2-Hydroxyethyl methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-Hydroxyethyl methacrylate	Ingestion	Rat	LD50 5,564 mg/kg
2-Hydroxy-1,3-propanediyl bismethacrylate	Ingestion	similar compounds	LD50 300-2000 mg/kg
2-Propenoic acid, polymer with methylenebutanedioic acid	Ingestion	Rat	LD50 > 5,000 mg/kg
2-Propenoic acid, polymer with methylenebutanedioic acid	Dermal	similar health hazards	LD50 estimated to be > 5,000 mg/kg
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	Ingestion	Rat	LD50 > 5,000 mg/kg
Diphenyliodonium hexafluorophosphate	Ingestion	Rat	LD50 32 mg/kg
Ethyl 4-dimethylaminobenzoate	Dermal	Rat	LD50 > 2,000 mg/kg

Ethyl 4-dimethylaminobenzoate	Ingestion	Rat	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Ethanol	Rabbit	No significant irritation
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Not available	Minimal irritation
Amorphous silica (7631-86-9) surface modified with organofunctional silane and methacryloxypropyltrimethoxysilane (2530-85-0)	Rabbit	No significant irritation
2-Hydroxyethyl methacrylate	Rabbit	Minimal irritation
Diphenyliodonium hexafluorophosphate	Rabbit	No significant irritation
Ethyl 4-dimethylaminobenzoate	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Ethanol	Rabbit	Severe irritant
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Not available	Moderate irritant
Amorphous silica (7631-86-9) surface modified with organofunctional silane and methacryloxypropyltrimethoxysilane (2530-85-0)	Rabbit	No significant irritation
2-Hydroxyethyl methacrylate	Rabbit	Moderate irritant
Diphenyliodonium hexafluorophosphate	Rabbit	Mild irritant
Ethyl 4-dimethylaminobenzoate	Rabbit	Mild irritant

Skin Sensitisation

Name	Species	Value
Ethanol	Human	Not classified
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Guinea pig	Sensitising
Amorphous silica (7631-86-9) surface modified with organofunctional silane and methacryloxypropyltrimethoxysilane (2530-85-0)	Human and animal	Not classified
2-Hydroxyethyl methacrylate	Human and animal	Sensitising
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	Guinea pig	Sensitising

Respiratory Sensitisation

For the component/components, either no data is currently available or the data is not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Ethanol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Ethanol	In vivo	Some positive data exist, but the data are not sufficient for classification
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Amorphous silica (7631-86-9) surface modified with organofunctional silane and methacryloxypropyltrimethoxysilane (2530-85-0)	In Vitro	Not mutagenic
2-Hydroxyethyl methacrylate	In vivo	Not mutagenic
2-Hydroxyethyl methacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Diphenyliodonium hexafluorophosphate	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Ethanol	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Amorphous silica (7631-86-9) surface modified with organofunctional silane and methacryloxypropyltrimethoxysilane (2530-85-0)	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Ethanol	Inhalation	Not classified for development	Rat	NOAEL 38 mg/l	during gestation
Ethanol	Ingestion	Not classified for development	Rat	NOAEL 5,200 mg/kg/day	premating & during gestation
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion	Not classified for female reproduction	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion	Not classified for male reproduction	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion	Not classified for development	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
Amorphous silica (7631-86-9) surface modified with organofunctional silane and methacryloxypropyltrimethoxysilane (2530-85-0)	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Amorphous silica (7631-86-9) surface modified with organofunctional silane and methacryloxypropyltrimethoxysilane (2530-85-0)	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Amorphous silica (7631-86-9) surface modified with organofunctional silane and methacryloxypropyltrimethoxysilane (2530-85-0)	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
2-Hydroxyethyl methacrylate	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
2-Hydroxyethyl methacrylate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	49 days
2-Hydroxyethyl methacrylate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Ethanol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	LOAEL 2.6 mg/l	30 minutes
Ethanol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	LOAEL 9.4 mg/l	not available
Ethanol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL not available	
Ethanol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg	
2-Propenoic acid, polymer with methylenebutanedioic	Ingestion	nervous system	Not classified	Rat	NOAEL 5,000 mg/kg	

acid						
Diphenyliodonium hexafluorophosphate	Inhalation	respiratory irritation	Not classified	Not available	Irritation Equivocal	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Ethanol	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rabbit	LOAEL 124 mg/l	365 days
Ethanol	Inhalation	hematopoietic system | immune system	Not classified	Rat	NOAEL 25 mg/l	14 days
Ethanol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 8,000 mg/kg/day	4 months
Ethanol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg/day	7 days
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion	endocrine system | liver | nervous system | kidney and/or bladder	Not classified	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
Amorphous silica (7631-86-9) surface modified with organofunctional silane and methacryloxypropyltrimethoxysilane (2530-85-0)	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
2-Propenoic acid, polymer with methylenebutanedioic acid	Ingestion	endocrine system | hematopoietic system | liver	Not classified	Rat	NOAEL 200 mg/kg/day	28 days
2-Propenoic acid, polymer with methylenebutanedioic acid	Ingestion	heart | bone, teeth, nails, and/or hair | immune system | muscles | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 2,000 mg/kg/day	28 days

Aspiration Hazard
For the component/components, either no data is currently available or the data is not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
2-Hydroxy-1,3-	1830-78-0	Guppy	Experimental	96 hours	LC50	43.2 mg/l

propanediyl bismethacrylate						
Diphenyliodonium hexafluorophosphate	58109-40-3	Water flea	Experimental	48 hours	EC50	9.5 mg/l
Ethanol	64-17-5	Water flea	Experimental	48 hours	EC50	9,300 mg/l
Ethanol	64-17-5	Green algae	Experimental	96 hours	EC50	1,000 mg/l
Ethanol	64-17-5	Rainbow trout	Experimental	96 hours	LC50	42 mg/l
2-Hydroxyethyl methacrylate	868-77-9	Water flea	Experimental	48 hours	EC50	380 mg/l
2-Hydroxyethyl methacrylate	868-77-9	Fathead minnow	Experimental	96 hours	LC50	227 mg/l
Ethyl 4-dimethylamino benzoate	10287-53-3	Fathead minnow	Estimated	96 hours	LC50	8.8 mg/l
2-Hydroxyethyl methacrylate	868-77-9	Green Algae	Experimental	72 hours	EC50	345 mg/l
Ethanol	64-17-5	Water flea	Experimental	11 days	NOEC	9.6 mg/l
2-Hydroxyethyl methacrylate	868-77-9	Water flea	Experimental	21 days	NOEC	24.1 mg/l
2-Hydroxyethyl methacrylate	868-77-9	Green Algae	Experimental	72 hours	NOEC	160 mg/l
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4		Data not available or insufficient for classification			
2-Propenoic acid, polymer with methylenebutanedioic acid	25948-33-8		Data not available or insufficient for classification			
Amorphous silica (7631-86-9) surface modified with organofunctional silane and methacryloxypropyltrimethoxysilane (2530-85-0)	None		Data not available or insufficient for classification			
(1-methylethylidene)bis[4,1-phenyleneoxy(	1565-94-2		Data not available or insufficient for classification			

2-hydroxy-3,1-propanediyl)] bismethacrylate						

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Non-Hazardous Ingredients	Mixture	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Ethyl 4-dimethylamino benzoate	10287-53-3	Estimated Biodegradation	28 days	BOD	29 % weight	OECD 301C - MITI test (I)
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	1565-94-2	Estimated Biodegradation	28 days	BOD	33 % weight	OECD 301C - MITI test (I)
2-Hydroxy-1,3-propanediyl bismethacrylate	1830-78-0	Experimental Biodegradation	28 days	BOD	84 % weight	OECD 301F - Manometric respirometry
2-Propenoic acid, polymer with methylenebutanedioic acid	25948-33-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Diphenyliodonium hexafluorophosphate	58109-40-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Ethanol	64-17-5	Experimental Biodegradation	14 days	BOD	89 % weight	OECD 301C - MITI test (I)
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	Estimated Biodegradation	28 days	BOD	52 % weight	OECD 301C - MITI test (I)
2-Hydroxyethyl methacrylate	868-77-9	Experimental Hydrolysis		Hydrolytic half-life	10.9 days (t 1/2)	Other methods
2-Hydroxyethyl methacrylate	868-77-9	Experimental Biodegradation	14 days	BOD	95 % weight	OECD 301C - MITI test (I)
Amorphous silica (7631-86-9) surface modified with organofunctional silane and	None	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

methacryloxypropyltrimethoxysilane (2530-85-0)						

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Non-Hazardous Ingredients	Mixture	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Ethyl 4-dimethylamino benzoate	10287-53-3	Estimated Bioconcentration		Bioaccumulation factor	19	Estimated: Bioconcentration factor
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	1565-94-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Hydroxy-1,3-propanediyl bismethacrylate	1830-78-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Propenoic acid, polymer with methylenebutanedioic acid	25948-33-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Diphenyliodonium hexafluorophosphate	58109-40-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Ethanol	64-17-5	Experimental Bioconcentration		Log Kow	-0.31	Other methods
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	Estimated Bioconcentration		Bioaccumulation factor	5	Estimated: Bioconcentration factor
2-Hydroxyethyl methacrylate	868-77-9	Experimental Bioconcentration		Log Kow	0.47	Other methods
Amorphous silica (7631-86-9) surface modified with organofunctional silane and	None	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

methacryloxypropyltrimethoxysilane (2530-85-0)						

12.4. Mobility in soil
Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

No information available at this time, contact manufacturer for more details

12.6. Other adverse effects

Material	CAS Nbr	Ozone Depletion Potential	Global Warming Potential
ethyl alcohol	64-17-5	0	
Non-Hazardous Ingredients	Mixture	0	

SECTION 13: Disposal considerations

13.1 Waste treatment methods
See Section 11.1 Information on toxicological effects

Incinerate in a permitted waste incineration facility.

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)
180106* Chemicals consisting of or containing dangerous substances.

SECTION 14: Transportation information

70-2010-3675-6

ADR/RID: DANGEROUS GOODS IN EXCEPTED QUANTITIES, CLASS 3, II , (--).
IMDG-CODE: UN1133, ADHESIVES, 3, II , IMDG-Code segregation code: NONE, Dangerous Goods in excepted Quantities, EMS: FE,SD.
ICAO/IATA: DANGEROUS GOODS IN EXCEPTED QUANTITIES OF CLASS 3,UN1133, II .

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status
Contact 3M for more information.

15.2. Chemical Safety Assessment
A chemical safety assessment has been carried out for the relevant substances in this material by the registrant in accordance with regulation REGULATION (EC) No 1907/2006

SECTION 16: Other information

List of relevant H statements

H225	Highly flammable liquid and vapour.
H300	Fatal if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Revision information:
Professional Mixing and Application: Section 16: Annex information was added.
Section 01: SAP Material Numbers information was added.
Section 3: Composition/ Information of ingredients table information was added.
Section 3: Composition/ Information of ingredients table information was deleted.
Section 8: 8.2. Exposure controls information information was added.
Section 8: 8.2.3. Environmental exposure controls information information was added.
Section 8: DNEL table row information was added.
Section 8: PNEC table row information was added.
Section 11: Acute Toxicity table information was modified.
Section 11: Carcinogenicity Table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 15: Chemical Safety Assessment information was modified.
Annex: Prediction of exposure statement information was added.

Annex

1. Title	
Substance identification	2-Hydroxyethyl methacrylate; EC No. 212-782-2; CAS Nbr 868-77-9;
Exposure Scenario Name	Hand-mixing of preparations, e.g. plasters, resins, two-component adhesives.
Lifecycle Stage	Widespread use by professional workers
Contributing activities	PROC 0 -Other Process or activity ERC 08c -Widespread use leading to inclusion into/onto article (indoor)
Processes, tasks and activities covered	Application of substances/mixtures by dentist to patient's mouth on the dental hard tissue. Manual application of product.
2. Operational conditions and risk management measures	
Operating Conditions	**Physical state:**Liquid. **General operating conditions:** Duration of use: 8 hours/day; Frequency of exposure at workplace [for one worker]: 5 days/week; Indoors with good general ventilation;

Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** Goggles - Chemical resistant; Protective Gloves - Chemical resistant; **Environmental:** None needed;
Waste management measures	No use-specific waste management measures are required for this product. Refer to Section 13 of main SDS for disposal instructions:
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any 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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Revision date:	02/06/2017	**Supersedes date:**	23/05/2012

Transportation version number: 1.00 (22/05/2012)

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

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

1.1. Product identifier

3M Filtek P60 Posterior Restorative Paste

Product Identification Numbers

70-2010-2550-2	70-2010-2551-0	70-2010-2552-8
7000054233	7000054234	7000054235

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Dental Product

Restrictions on Use

For use only by dental professionals

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

This product is a medical device as defined in Directive 93/42/EEC (MDD), which is invasive or used in direct physical contact with the human body, and therefore is exempt from the requirements of classification and labelling according to Regulation (EC) No. 1272/2008 (CLP; Article 1, paragraph 5). Although not required, the classification and label information, as applicable, is provided below.

CLASSIFICATION:
Skin Sensitization, Category 1B - Skin Sens. 1B; H317

For full text of H phrases, see Section 16.

2.2. Label elements
CLP REGULATION (EC) No 1272/2008

SIGNAL WORD
WARNING.

Symbols:
GHS07 (Exclamation mark) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	% by Wt
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	1 - 10
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	1565-94-2	1 - 10
2,2'-ethylenedioxydiethyl dimethacrylate	109-16-0	< 5

HAZARD STATEMENTS:
H317 May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS

Prevention:
P280E Wear protective gloves.

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

2.3. Other hazards

For information on hazards and safe use, please consider the corresponding sections of this document.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
Ceramic materials and wares, chemicals, hydrolysis products with 3-(trimethoxysilyl)propyl methacrylate	444758-98-9			75 - 85	Substance not classified as hazardous
Bisphenol A dimethacrylate, ethoxylated	41637-38-1			1 - 10	Aquatic Chronic 4, H413
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-	72869-86-4	276-957-5		1 - 10	Skin Sens. 1B, H317

3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate					
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	1565-94-2	216-367-7		1 - 10	Skin Sens. 1B, H317
2,2'-ethylenedioxydiethyl dimethacrylate	109-16-0	203-652-6		< 5	Skin Sens. 1, H317
Aluminium oxide	1344-28-1	215-691-6	01-2119529248-35	< 5	Substance with a Community level exposure limit in the workplace
2-Propenoic acid, 2-methyl-, 2-[3-(2H-benzotriazol-2-yl)-4-hydroxyphenyl]ethyl ester	96478-09-0			< 0.5	Substance not classified as hazardous
Ethyl 4-dimethylaminobenzoate	10287-53-3	233-634-3		< 0.5	Substance not classified as hazardous

Please see section 16 for the full text of any H statements referred to in this section

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
Remove person to fresh air. If you feel unwell, get medical attention.

Skin contact
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye contact
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If swallowed
Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1 Information on toxicological effects

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition

Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.

5.3. Advice for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. 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. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections
Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling
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. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage including any incompatibilities
No special storage requirements.

7.3. Specific end use(s)
See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Aluminium oxide	1344-28-1	UK HSC	TWA(as inhalable dust):10 mg/m³;TWA(as respirable dust):4 mg/m³	

UK HSC : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

Biological limit values
No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

8.2. Exposure controls

8.2.1. Engineering controls
Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety glasses with side shields.

Applicable Norms/Standards
Use eye protection conforming to EN 166

Skin/hand protection
See Section 7.1 for additional information on skin protection.

Respiratory protection

Respiratory protection is not required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Paste
Appearance/Odour	Slight acrylate odour, various shades
Odour threshold	*No data available.*
pH	*Not applicable.*
Boiling point/boiling range	*Not applicable.*
Melting point	*No data available.*
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	No flash point
Autoignition temperature	*No data available.*
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*Not applicable.*
Relative density	2.1 [*Ref Std:*WATER=1]
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*Not applicable.*
Evaporation rate	*Not applicable.*
Vapour density	*Not applicable.*
Decomposition temperature	*No data available.*
Viscosity	approximately 300,000 mPa-s
Density	2.1 g/cm3

9.2. Other information

Molecular weight	*No data available.*
Percent volatile	*No data available.*

SECTION 10: Stability and reactivity

10.1 Reactivity
This material is considered to be non reactive under normal use conditions

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
None known.

10.5 Incompatible materials
None known.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation
This product may have a characteristic odour; however, no adverse health effects are anticipated.

Skin contact
Contact with the skin during product use is not expected to result in significant irritation. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye contact
Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion
May be harmful if swallowed.
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE2,000 - 5,000 mg/kg
Ceramic materials and wares, chemicals, hydrolysis products with 3-(trimethoxysilyl)propyl methacrylate	Dermal		LD50 estimated to be > 5,000 mg/kg
Ceramic materials and wares, chemicals, hydrolysis products with 3-(trimethoxysilyl)propyl methacrylate	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Bisphenol A dimethacrylate, ethoxylated	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	Ingestion	Rat	LD50 > 5,000 mg/kg
Bisphenol A dimethacrylate, ethoxylated	Ingestion	Rat	LD50 > 2,000 mg/kg
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
2,2'-ethylenedioxydiethyl dimethacrylate	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
2,2'-ethylenedioxydiethyl dimethacrylate	Ingestion	Rat	LD50 10,837 mg/kg
Aluminium oxide	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminium oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.3 mg/l
Aluminium oxide	Ingestion	Rat	LD50 > 5,000 mg/kg
Ethyl 4-dimethylaminobenzoate	Dermal	Rat	LD50 > 2,000 mg/kg
Ethyl 4-dimethylaminobenzoate	Ingestion	Rat	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Ceramic materials and wares, chemicals, hydrolysis products with 3-(trimethoxysilyl)propyl methacrylate	similar compounds	No significant irritation
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Not available	Minimal irritation
2,2'-ethylenedioxydiethyl dimethacrylate	Guinea pig	Mild irritant
Aluminium oxide	Rabbit	No significant irritation
Ethyl 4-dimethylaminobenzoate	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Ceramic materials and wares, chemicals, hydrolysis products with 3-(trimethoxysilyl)propyl methacrylate	similar compounds	Mild irritant
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Not available	Moderate irritant

2,2'-ethylenedioxydiethyl dimethacrylate	Professional judgement	Moderate irritant
Aluminium oxide	Rabbit	No significant irritation
Ethyl 4-dimethylaminobenzoate	Rabbit	Mild irritant

Skin Sensitisation

Name	Species	Value
Ceramic materials and wares, chemicals, hydrolysis products with 3-(trimethoxysilyl)propyl methacrylate	similar compounds	Not classified
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	Guinea pig	Sensitising
Bisphenol A dimethacrylate, ethoxylated	Guinea pig	Not classified
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Guinea pig	Sensitising
2,2'-ethylenedioxydiethyl dimethacrylate	Human and animal	Sensitising

Respiratory Sensitisation

For the component/components, either no data is currently available or the data is not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Bisphenol A dimethacrylate, ethoxylated	In Vitro	Not mutagenic
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
2,2'-ethylenedioxydiethyl dimethacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Aluminium oxide	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Ceramic materials and wares, chemicals, hydrolysis products with 3-(trimethoxysilyl)propyl methacrylate	Inhalation	similar compounds	Some positive data exist, but the data are not sufficient for classification
2,2'-ethylenedioxydiethyl dimethacrylate	Dermal	Mouse	Not carcinogenic
Aluminium oxide	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion	Not classified for female reproduction	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion	Not classified for male reproduction	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion	Not classified for development	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
2,2'-ethylenedioxydiethyl dimethacrylate	Ingestion	Not classified for female reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
2,2'-ethylenedioxydiethyl dimethacrylate	Ingestion	Not classified for male reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
2,2'-ethylenedioxydiethyl dimethacrylate	Ingestion	Not classified for development	Mouse	NOAEL 1 mg/kg/day	1 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure
For the component/components, either no data is currently available or the data is not sufficient for classification.

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Ceramic materials and wares, chemicals, hydrolysis products with 3-(trimethoxysilyl)propyl methacrylate	Inhalation	pulmonary fibrosis	Not classified	similar compounds	NOAEL Not available	
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	Ingestion	endocrine system | liver | nervous system | kidney and/or bladder	Not classified	Mouse	NOAEL 0.8 mg/kg/day	premating & during gestation
2,2'-ethylenedioxydiethyl dimethacrylate	Dermal	kidney and/or bladder | blood	Not classified	Mouse	NOAEL 833 mg/kg/day	78 weeks
Aluminium oxide	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Aluminium oxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure

Aspiration Hazard
For the component/components, either no data is currently available or the data is not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
2-Propenoic acid, 2-methyl-, 2-[3-(2H-benzotriazol-2-yl)-4-hydroxyphenyl]ethyl ester	96478-09-0	Fathead minnow	Estimated	96 hours	LC50	9.1 mg/l
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecan	72869-86-4	Fathead minnow	Estimated	96 hours	LC50	1.4 mg/l

e-1,16-diyl bismethacrylate						
Ethyl 4-dimethylamino benzoate	10287-53-3	Fathead minnow	Estimated	96 hours	LC50	8.8 mg/l
Aluminium oxide	1344-28-1	Water flea	Experimental	48 hours	EC50	>100 mg/l
Aluminium oxide	1344-28-1	Fish	Experimental	96 hours	LC50	>100 mg/l
Aluminium oxide	1344-28-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
Aluminium oxide	1344-28-1	Green algae	Experimental	72 hours	NOEC	>100 mg/l
Bisphenol A dimethacrylate, ethoxylated	41637-38-1		Data not available or insufficient for classification			
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	1565-94-2		Data not available or insufficient for classification			
Ceramic materials and wares, chemicals, hydrolysis products with 3-(trimethoxysilyl)propyl methacrylate	444758-98-9		Data not available or insufficient for classification			
2,2'-ethylenedioxydiethyl dimethacrylate	109-16-0		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Ethyl 4-dimethylamino benzoate	10287-53-3	Estimated Biodegradation	28 days	BOD	29 % weight	OECD 301C - MITI test (I)
2,2'-ethylenedioxydiethyl dimethacrylate	109-16-0	Estimated Biodegradation	28 days	BOD	60 % weight	Other methods
Aluminium oxide	1344-28-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
(1-methylethylide	1565-94-2	Estimated Biodegradation	28 days	BOD	33 % weight	OECD 301C - MITI test (I)

ne)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate						
Bisphenol A dimethacrylate, ethoxylated	41637-38-1	Calculated Biodegradation	28 days	BOD	38 % weight	OECD 301C - MITI test (I)
Ceramic materials and wares, chemicals, hydrolysis products with 3-(trimethoxysilyl)propyl methacrylate	444758-98-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	Estimated Biodegradation	28 days	BOD	52 % weight	OECD 301C - MITI test (I)
2-Propenoic acid, 2-methyl-, 2-[3-(2H-benzotriazol-2-yl)-4-hydroxyphenyl]ethyl ester	96478-09-0	Estimated Biodegradation	28 days	BOD	21.4 % weight	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Ethyl 4-dimethylamino benzoate	10287-53-3	Estimated Bioconcentration		Bioaccumulation factor	19	Estimated: Bioconcentration factor
2,2'-ethylenedioxydiethyl dimethacrylate	109-16-0	Experimental Bioaccumulation		Log Kow	1.88	Other methods
Aluminium oxide	1344-28-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
(1-methylethylidene)bis[4,1-phenyleneoxy(2-hydroxy-3,1-propanediyl)] bismethacrylate	1565-94-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

Bisphenol A dimethacrylate, ethoxylated	41637-38-1	Calculated Bioconcentration		Bioaccumulation factor	6.7	Estimated: Bioconcentration factor
Ceramic materials and wares, chemicals, hydrolysis products with 3-(trimethoxysilyl)propyl methacrylate	444758-98-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
7,7,9(or 7,9,9)-Trimethyl-4,13-dioxo-3,14-dioxa-5,12-diazahexadecane-1,16-diyl bismethacrylate	72869-86-4	Estimated BCF - Other		Bioaccumulation factor	5	Estimated: Bioconcentration factor
2-Propenoic acid, 2-methyl-, 2-[3-(2H-benzotriazol-2-yl)-4-hydroxyphenyl]ethyl ester	96478-09-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil
Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

No information available at this time, contact manufacturer for more details

12.6. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
See Section 11.1 Information on toxicological effects

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility.

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)
180106* Chemicals consisting of or containing dangerous substances.

SECTION 14: Transportation information

70-2010-2550-2, 70-2010-2551-0, 70-2010-2552-8

Not hazardous for transportation

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status
Contact 3M for more information.

15.2. Chemical Safety Assessment
Not applicable

SECTION 16: Other information

List of relevant H statements

H317	May cause an allergic skin reaction.
H413	May cause long lasting harmful effects to aquatic life.

Revision information:
Company Telephone information was added.
Section 01: SAP Material Numbers information was added.
Section 1: Restrictions on use information information was added.
CLP: Ingredient table information was added.
Section 2: H phrase reference information was added.
Section 2: Indication of danger information information was deleted.
Label: CLP Classification information was added.
Section 02: Label Elements: CLP Medical Device information was added.
Label: CLP Precautionary - Prevention information was added.
Label: CLP Precautionary - Response information was added.
Label: Graphic information was added.
Label: Signal Word information was added.
Section 2: Label ingredient information information was deleted.
Section 2: Other hazards phrase information was modified.
Remark (phrase) information was deleted.
Risk phrase information was deleted.
Safety phrase information was deleted.
Section 2: Symbol information was deleted.
Section 3: Composition/ Information of ingredients table information was added.
Section 3: Composition/ Information of ingredients table information was deleted.
Section 3: Reference to H statement explanation in Section 016 information was added.
Section 3: Reference to R and H statement explanation in Section 16 information was deleted.
Section 3: Reference to section 15 for Nota info information was deleted.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 5: Fire - Extinguishing media information information was modified.
Section 6: Accidental release personal information information was modified.
Section 7: Conditions safe storage information was modified.
Section 7: Precautions safe handling information information was modified.
Section 8: Appropriate Engineering controls information information was modified.
Section 8: BLV information was added.

Section 8: Eye/face protection text information was deleted.
Section 8: Occupational exposure limit table information was added.
Section 8: Occupational exposure limit table information was modified.
OEL Reg Agency Desc information was added.
Section 8: Personal Protection - Eye information information was modified.
Section 8: Personal Protection - Respiratory Information information was modified.
Section 8: Personal Protection - Skin/hand information information was modified.
Section 8: STEL key information was added.
Section 8: TWA key information was added.
Section 9: Decomposition Temperature information was added.
Section 9: Odour Threshold information was added.
Section 9: Property description for optional properties information was added.
Section 9: Property description for optional properties information was deleted.
Section 9: Solubility (non-water) information was added.
Section 9: Viscosity information information was modified.
Section 10: Hazardous decomposition products during combustion text information was added.
Section 11: Acute Toxicity table information was modified.
Section 11: Aspiration Hazard Table information was deleted.
Section 11: Aspiration Hazard text information was added.
Section 11: Carcinogenicity Table information was modified.
Section 11: Classification disclaimer information was added.
Section 11: Classification disclaimer information was deleted.
Section 11: Disclosed components not in tables text information was added.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Health Effects - Ingestion information information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 11: Health Effects - Skin information information was modified.
Section 11: Reproductive and/or Developmental Effects text information was added.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Respiratory Sensitization Table information was deleted.
Section 11: Respiratory Sensitization text information was added.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Specific Target Organ Toxicity - single exposure text information was added.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was deleted.
Section 12: Acute aquatic hazard information information was deleted.
Section 12: Chronic aquatic hazard information information was deleted.
Section 12: Classification Warning information was added.
Section 12: Classification Warning information was deleted.
Section 12: Component ecotoxicity information information was added.
Prints No Data if Bioccumulative potential information is not present information was deleted.
Prints No Data if Component ecotoxicity information is not present information was deleted.
Prints No Data if Persistence and Degradability information is not present information was deleted.
Section 12: Persistence and Degradability information information was added.
Section 12:Bioccumulative potential information information was added.
Section 13: 13.1. Waste disposal note information was modified.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 16: List of relevant R phrase information information was deleted.
Section 16: List of relevant R-phrases information was deleted.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was modified.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any 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

Document group:	29-8286-6	**Version number:**	4.01
Revision date:	02/02/2017	**Supersedes date:**	22/09/2016

Transportation version number: 3.00 (08/09/2016)

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

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

1.1. Product identifier
3M™ ESPE™ Scotchbond™ Universal Etchant

Product Identification Numbers
70-2011-3906-3

7000055181

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses
Dental Product

Restrictions on Use
For use only by dental professionals

1.3. Details of the supplier of the safety data sheet
Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number
+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
CLP REGULATION (EC) No 1272/2008

This product is a medical device as defined in Directive 93/42/EEC (MDD), which is invasive or used in direct physical contact with the human body, and therefore is exempt from the requirements of classification and labelling according to Regulation (EC) No. 1272/2008 (CLP; Article 1, paragraph 5). Although not required, the classification and label information, as applicable, is provided below.

CLASSIFICATION:
Substance or Mixture Corrosive to Metals, Category 1 - Met. Corr. 1; H290
Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318
Skin Corrosion/Irritation, Category 1B - Skin Corr. 1B; H314

For full text of H phrases, see Section 16.

2.2. Label elements
CLP REGULATION (EC) No 1272/2008

SIGNAL WORD
DANGER.

Symbols:
GHS05 (Corrosion) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	% by Wt
Phosphoric Acid	7664-38-2	30 - 40

HAZARD STATEMENTS:

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

PRECAUTIONARY STATEMENTS

Prevention:

P260A	Do not breathe vapours.
P280D	Wear protective gloves, protective clothing, and eye/face protection.

Response:

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTRE or doctor/physician.

2.3. Other hazards

May cause chemical gastrointestinal burns. For information on hazards and safe use, please consider the corresponding sections of this document.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Non hazardous ingredients	Mixture		50 - 65	Substance not classified as hazardous
Phosphoric Acid (REACH Reg. No.:01-	7664-38-2	231-633-2	30 - 40	Skin Corr. 1B, H314 - Nota B

2119485924-24)				(CLP)
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5		5 - 10	Substance not classified as hazardous
Polyethylene Glycol	25322-68-3		1 - 5	Substance not classified as hazardous
Aluminium oxide (REACH Reg. No.:01-2119529248-35)	1344-28-1	215-691-6	< 2	Substance with a Community level exposure limit in the workplace

Please see section 16 for the full text of any H statements referred to in this section

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
Remove person to fresh air. If you feel unwell, get medical attention.

Skin contact
Immediately flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

Eye contact
Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If swallowed
Rinse mouth. Do not induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1 Information on toxicological effects

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Extinguishing media
In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.

5.3. Advice for fire-fighters
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Ventilate the area with fresh air. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Contain spill. Collect as much of the spilled material as possible. 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. Clean up residue with water. Cover, but do not seal for 48 hours. Dispose of collected material as soon as possible.

6.4. Reference to other sections
Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid prolonged or repeated skin contact. Do not breathe dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Wash contaminated clothing before reuse. Do not get in eyes.

7.2. Conditions for safe storage including any incompatibilities
Store away from heat. Keep only in original container. Store in a corrosive resistant container with a resistant inner liner. Store away from strong bases.

7.3. Specific end use(s)
See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Aluminium oxide	1344-28-1	UK HSC	TWA(as inhalable dust):10 mg/m³;TWA(as respirable dust):4 mg/m³	
Phosphoric Acid	7664-38-2	UK HSC	TWA:1 mg/m3;STEL:2 mg/m3	

UK HSC : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

Biological limit values
No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

8.2. Exposure controls

8.2.1. Engineering controls
Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety glasses with side shields.

Skin/hand protection
See Section 7.1 for additional information on skin protection.

Respiratory protection
None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Gel
Appearance/Odour	Slight characteristic odour, Blue
Odour threshold	*No data available.*
pH	< 1
Boiling point/boiling range	*No data available.*
Melting point	*Not applicable.*
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	> 100 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*No data available.*
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*No data available.*
Relative density	1.1 - 1.2 [*Ref Std:*WATER=1]
Water solubility	Complete
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*No data available.*
Vapour density	*No data available.*
Decomposition temperature	*No data available.*
Viscosity	*No data available.*
Density	1.1 g/ml - 1.2 g/ml

9.2. Other information

Molecular weight	*No data available.*
Percent volatile	*No data available.*

SECTION 10: Stability and reactivity

10.1 Reactivity
This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
Heat.

10.5 Incompatible materials
Strong bases.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation
This product may have a characteristic odour; however, no adverse health effects are anticipated.

Skin contact
Corrosive (skin burns): Signs/symptoms may include localised redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

Eye contact
Corrosive (eye burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion
May be harmful if swallowed.
Gastrointestinal corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea; blood in the faeces and/or vomitus may also be seen.

Toxicological Data
If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE2,000 - 5,000 mg/kg

Phosphoric Acid	Dermal	Rabbit	LD50 2,740 mg/kg
Phosphoric Acid	Ingestion	Rat	LD50 1,530 mg/kg
Synthetic amorphous silica, fumed, crystalline-free	Dermal	Rabbit	LD50 > 5,000 mg/kg
Synthetic amorphous silica, fumed, crystalline-free	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Rat	LD50 > 5,110 mg/kg
Polyethylene Glycol	Dermal	Rabbit	LD50 > 20,000 mg/kg
Polyethylene Glycol	Ingestion	Rat	LD50 32,770 mg/kg
Aluminium oxide	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminium oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.3 mg/l
Aluminium oxide	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Phosphoric Acid	Rabbit	Corrosive
Synthetic amorphous silica, fumed, crystalline-free	Rabbit	No significant irritation
Polyethylene Glycol	Rabbit	Minimal irritation
Aluminium oxide	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Phosphoric Acid	official classification	Corrosive
Synthetic amorphous silica, fumed, crystalline-free	Rabbit	No significant irritation
Polyethylene Glycol	Rabbit	Mild irritant
Aluminium oxide	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
Phosphoric Acid	Human	Not sensitising
Synthetic amorphous silica, fumed, crystalline-free	Human and animal	Not sensitising
Polyethylene Glycol	Guinea pig	Not sensitising

Respiratory Sensitisation

For the component/components, either no data is currently available or the data is not sufficient for classification.

Germ Cell Mutagenicity

Name	Route	Value
Phosphoric Acid	In Vitro	Not mutagenic
Synthetic amorphous silica, fumed, crystalline-free	In Vitro	Not mutagenic
Polyethylene Glycol	In Vitro	Not mutagenic
Polyethylene Glycol	In vivo	Not mutagenic
Aluminium oxide	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Synthetic amorphous silica, fumed, crystalline-free	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Polyethylene Glycol	Ingestion	Rat	Not carcinogenic
Aluminium oxide	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Phosphoric Acid	Ingestion	Not toxic to female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Phosphoric Acid	Ingestion	Not toxic to male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Phosphoric Acid	Ingestion	Not toxic to development	Rat	NOAEL 750 mg/kg/day	2 generation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Polyethylene Glycol	Ingestion	Not toxic to female reproduction	Rat	NOAEL 1,125 mg/kg/day	during gestation
Polyethylene Glycol	Ingestion	Not toxic to male reproduction	Rat	NOAEL 5699 +/- 1341 mg/kg/day	5 days
Polyethylene Glycol	Not specified.	Some positive reproductive/developmental data exist, but the data are not sufficient for classification		NOEL N/A	
Polyethylene Glycol	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL 562 mg/animal/day	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Phosphoric Acid	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Polyethylene Glycol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.008 mg/l	2 weeks

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Synthetic amorphous silica, fumed, crystalline-free	Inhalation	respiratory system | silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
Polyethylene Glycol	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.008 mg/l	2 weeks
Polyethylene Glycol	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 5,640 mg/kg/day	13 weeks
Polyethylene Glycol	Ingestion	heart | endocrine system | hematopoietic system | liver | nervous system	All data are negative	Rat	NOAEL 5,640 mg/kg/day	13 weeks
Aluminium oxide	Inhalation	pneumoconiosis | pulmonary fibrosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure

Aspiration Hazard
For the component/components, either no data is currently available or the data is not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Aluminium oxide	1344-28-1	Water flea	Experimental	48 hours	EC50	>100 mg/l
Aluminium oxide	1344-28-1	Fish	Experimental	96 hours	LC50	>100 mg/l
Aluminium oxide	1344-28-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
Phosphoric Acid	7664-38-2	Golden Orfe	Experimental	48 hours	NOEC	2,400 mg/l
Phosphoric Acid	7664-38-2	Water flea	Experimental	50 hours	EC50	1,089 mg/l
Polyethylene Glycol	25322-68-3	Atlantic Salmon	Experimental	96 hours	LC50	>1,000 mg/l
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Zebra Fish	Analogous Compound	96 hours	LC50	5,000 mg/l
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Green algae	Analogous Compound	72 hours	EC50	440 mg/l
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Water flea	Analogous Compound	48 hours	EC50	7,600 mg/l
Aluminium oxide	1344-28-1	Green algae	Experimental	72 hours	NOEC	>100 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Phosphoric	7664-38-2	Data not	N/A	N/A	N/A	N/A

Acid		available or insufficient for classification				
Polyethylene Glycol	25322-68-3	Experimental Biodegradation	28 days	BOD	56.2 % weight	OECD 301C - MITI test (I)
Aluminium oxide	1344-28-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Phosphoric Acid	7664-38-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Polyethylene Glycol	25322-68-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Aluminium oxide	1344-28-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil
Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

No information available at this time, contact manufacturer for more details

12.6. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
See Section 11.1 Information on toxicological effects

Dispose of waste product in a permitted industrial waste facility.

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)
180106* Chemicals consisting of or containing dangerous substances.

SECTION 14: Transportation information

70-2011-3906-3

ADR/RID: DANGEROUS GOODS IN EXCEPTED QUANTITIES, CLASS 8, III, (--).
IMDG-CODE: UN1805, PHOSPHORIC ACID SOLUTION, 8., III, IMDG-Code segregation code: 1 - ACIDS, Dangerous Goods in excepted quantity, EMS: FA,SB.
ICAO/IATA: DANGEROUS GOODS IN EXCEPTED QUANTITIES OF CLASS 8,UN1805, III.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status
Contact 3M for more information. The components of this product are in compliance with the new substance notification requirements of CEPA.

15.2. Chemical Safety Assessment
Not applicable

SECTION 16: Other information

List of relevant H statements

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

Revision information:

Section 01: SAP Material Numbers information was added.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any 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