Safety Data Sheet

Document group:	34-2977-6	**Version number:**	4.01
Revision date:	17/06/2021	**Supersedes date:**	07/05/2021

Transportation version number: 2.00 (31/08/2016)

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
3M (TM) 51004 DMS General Purpose Filler

Product Identification Numbers
UU-0030-1184-6

7100055256

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

Identified uses
Automotive.

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:

34-2076-7, 29-5075-6

TRANSPORTATION INFORMATION

UU-0030-1184-6

ADR/RID: UN3269, POLYESTER RESIN KIT, LIMITED QUANTITY, 3., III, (E), ADR Classification Code: F3.
IMDG-CODE: UN3269, POLYESTER RESIN KIT, 3., III, IMDG-Code segregation code: NONE, LIMITED QUANTITY, EMS: FE,SD.
ICAO/IATA: UN3269, POLYESTER RESIN KIT, 3., III.

KIT LABEL

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

CLASSIFICATION:
Flammable Liquid, Category 3 - Flam. Liq. 3; H226
Organic Peroxide, Type E - Org. Perox. E; H242
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Skin Sensitization, Category 1A - Skin Sens. 1A; H317
Reproductive Toxicity, Category 2 - Repr. 2; H361
Specific Target Organ Toxicity-Repeated Exposure, Category 1 - STOT RE 1; H372
Hazardous to the Aquatic Environment (Acute), Category 1 - Aquatic Acute 1; H400
Hazardous to the Aquatic Environment (Chronic), Category 1 - Aquatic Chronic 1; H410

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) |GHS08 (Health Hazard) |GHS09 (Environment) |

Pictograms

Contains:
styrene; ethanediol; maleic anhydride; 2,2-bis(acryloyloxymethyl)butyl acrylate; dibenzoyl peroxide

HAZARD STATEMENTS:

H226	Flammable liquid and vapour.
H242	Heating may cause a fire.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure: sensory organs |
H410	Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234	Keep only in original packaging.
P260A	Do not breathe vapours.
P273	Avoid release to the environment.

Storage:

P403	Store in a well-ventilated place.
P411	Store at temperatures not exceeding 32 ºC.

SUPPLEMENTAL INFORMATION:

Supplemental Hazard Statements:

EUH211	Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

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Refer to Safety Data Sheet for component % unknown values (www.3M.com/msds).

EU VOC Directive (2004/42/EC) labelling: 2004/42/EC IIB(b)(250) 100 g/l

Revision information:
Label: CLP Ingredients - kit components information was modified.
Label: CLP Precautionary - Storage information was modified.

Safety Data Sheet

Document group:	29-5075-6	**Version number:**	20.02
Revision date:	14/12/2023	**Supersedes date:**	31/01/2023

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (1907/2006), as amended for GB.

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

1.1. Product identifier
3M Blue Cream Hardener for DMS

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

Identified uses
Automotive.

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
The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.

CLASSIFICATION:
Organic Peroxide, Type E - Org. Perox. E; H242
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Skin Sensitization, Category 1 - Skin Sens. 1; H317
Specific Target Organ Toxicity-Repeated Exposure, Category 2 - STOT RE 2; H373
Hazardous to the Aquatic Environment (Acute), Category 1 - Aquatic Acute 1; H400
Hazardous to the Aquatic Environment (Chronic), Category 1 - Aquatic Chronic 1; H410

For full text of H phrases, see Section 16.

2.2. Label elements
The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

SIGNAL WORD
WARNING.

Symbols
GHS02 (Flame) |GHS07 (Exclamation mark) |GHS08 (Health Hazard) |GHS09 (Environment) |

Pictograms

Ingredient	CAS Nbr	EC No.	% by Wt
dibenzoyl peroxide	94-36-0	202-327-6	30 - 60
Isodecyl benzoate	131298-44-7	421-090-1	10 - 30
Water	7732-18-5	231-791-2	10 - 30
ethanediol	107-21-1	203-473-3	3 - 15
Calcium sulphate	7778-18-9	231-900-3	1 - 5
Zinc Stearate	557-05-1	209-151-9	1 - 5

HAZARD STATEMENTS:

H242	Heating may cause a fire.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated exposure: kidney/urinary tract.
H410	Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234	Keep only in original packaging.
P273	Avoid release to the environment.

Response:

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

Storage:

P403	Store in a well-ventilated place.
P411	Store at temperatures not exceeding 32 ºC.

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

<=125 ml Hazard statements

H317	May cause an allergic skin reaction.

<=125 ml Precautionary statements

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

Contains 20% of components with unknown hazards to the aquatic environment.

2.3. Other hazards

None known.
This material does not contain any substances that are assessed to be a PBT or vPvB

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP], as amended for GB
dibenzoyl peroxide	(CAS-No.) 94-36-0 (EC-No.) 202-327-6	30 - 60	Org. Perox. B, H241 Eye Irrit. 2, H319 Skin Sens. 1B, H317 Aquatic Acute 1, H400,M=10 Aquatic Chronic 1, H410,M=10
Water	(CAS-No.) 7732-18-5 (EC-No.) 231-791-2	10 - 30	Substance not classified as hazardous
Isodecyl benzoate	(CAS-No.) 131298-44-7 (EC-No.) ELINCS 421-090-1	10 - 30	Substance not classified as hazardous
ethanediol	(CAS-No.) 107-21-1 (EC-No.) 203-473-3	3 - 15	Acute Tox. 4, H302 STOT RE 2, H373
Zinc Stearate	(CAS-No.) 557-05-1 (EC-No.) 209-151-9	1 - 5	Substance with a national occupational exposure limit
Calcium sulphate	(CAS-No.) 7778-18-9 (EC-No.) 231-900-3	1 - 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
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. 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
The most important symptoms and effects based on the GB CLP classification include:
Allergic skin reaction (redness, swelling, blistering, and itching). Serious irritation to the eyes (significant redness, swelling, pain, tearing, and impaired vision). Target organ effects. See Section 11 for additional details.

4.3. Indication of any immediate medical attention and special treatment required
This product contains ethylene glycol. If there is reasonable suspicion of ethylene glycol poisoning, intravenous (IV) administration with either fomepizole (preferred) or ethanol (if fomepizole is unavailable) should be considered as part of the medical management.

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. Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode. Part of the oxygen for combustion is supplied by the peroxide itself.

5.3. Advice for fire-fighters
Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

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 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
For industrial/occupational use only. Not for consumer sale or use. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not breathe 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.

7.2. Conditions for safe storage including any incompatibilities
Protect from sunlight. Store away from heat. Store at temperatures not exceeding 32C/90F. Keep cool. Keep only in original container. Store away from acids. Store away from other materials. Keep/store away from clothing and other combustible materials. Store away from amines.

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
ethanediol	107-21-1	UK HSC	TWA(as vapor):52 mg/m3(20 ppm);TWA(as particulate):10 mg/m3;STEL(as vapor):104 mg/m3(40 ppm)	SKIN
Zinc Stearate	557-05-1	UK HSC	TWA(as respirable dust):4 mg/m3;TWA(as inhalable dust):10 mg/m3;STEL(as inhalable dust):20 mg/m3	
dibenzoyl peroxide	94-36-0	UK HSC	TWA:5 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 general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

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:
Indirect vented goggles.

Applicable Norms/Standards
Use eye protection conforming to EN 166

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended:

Material	Thickness (mm)	Breakthrough Time
Polymer laminate	No data available	No data available

Applicable Norms/Standards
Use gloves tested to EN 374

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

Applicable Norms/Standards
Use a respirator conforming to EN 140 or EN 136: filter types A & P

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid. Thick Paste
Specific Physical Form:	Paste
Colour	Blue
Odor	Characteristic Odour
Odour threshold	*No data available.*
Melting point/freezing point	*No data available.*
Boiling point/boiling range	*No data available.*
Flammability (solid, gas)	Organic Peroxide: Type E.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Flash point	No flash point
Autoignition temperature	50 ºC [*Details:*SADT]
Decomposition temperature	*No data available.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	80,645 mm²/sec
Water solubility	Nil

Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	100 Pa [@ 20 ºC]
Density	1.16 - 1.24 g/ml [@ 20 ºC]
Relative density	1.16 - 1.24 [*Ref Std:*WATER=1]
Relative Vapour Density	*No data available.*

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	*No data available.*
Evaporation rate	*No data available.*
Percent volatile	11 - 30 % weight

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.
Sparks and/or flames.

10.5 Incompatible materials
Accelerators
Alkali and alkaline earth metals.
Amines.
Reducing agents.
Strong acids.

10.6 Hazardous decomposition products

Substance	Condition
Carbon monoxide	Not specified.
Carbon dioxide.	Not specified.

SECTION 11: Toxicological information

The information below may not agree with the 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 hazard classes as defined in the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain.

Signs and Symptoms of Exposure

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

Inhalation
Vapours released during curing may cause irritation of the respiratory system: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin contact
May be harmful in contact with skin. 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
Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion
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:
Cardiac effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal. Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and changes in blood pressure and heart rate. Respiratory effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure. Kidney/Bladder effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

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 >2,000 - =5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
dibenzoyl peroxide	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
dibenzoyl peroxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 24.3 mg/l
dibenzoyl peroxide	Ingestion	Rat	LD50 > 5,000 mg/kg
Isodecyl benzoate	Dermal	Rabbit	LD50 > 2,000 mg/kg
Isodecyl benzoate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5 mg/l
Isodecyl benzoate	Ingestion	Rat	LD50 > 5,000 mg/kg
ethanediol	Ingestion	Human	LD50 1,600 mg/kg
ethanediol	Inhalation-Dust/Mist (4 hours)	Other	LC50 estimated to be 5 - 12.5 mg/l
ethanediol	Dermal	Rabbit	9,530 mg/kg
Calcium sulphate	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Zinc Stearate	Dermal	Rabbit	LD50 > 2,000 mg/kg
Calcium sulphate	Ingestion	Rat	LD50 > 5,000 mg/kg
Zinc Stearate	Inhalation-	Rat	LC50 > 50 mg/l

	Dust/Mist (4 hours)		
Zinc Stearate	Ingestion	Rat	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
dibenzoyl peroxide	Rabbit	Minimal irritation
ethanediol	Rabbit	Minimal irritation
Zinc Stearate	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
dibenzoyl peroxide	Rabbit	Severe irritant
ethanediol	Rabbit	Mild irritant
Zinc Stearate	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
dibenzoyl peroxide	Guinea pig	Sensitising
ethanediol	Human	Not classified
Zinc Stearate	Human	Not classified

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
dibenzoyl peroxide	In Vitro	Not mutagenic
dibenzoyl peroxide	In vivo	Not mutagenic
ethanediol	In Vitro	Not mutagenic
ethanediol	In vivo	Not mutagenic
Zinc Stearate	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
dibenzoyl peroxide	Ingestion	Multiple animal species	Not carcinogenic
dibenzoyl peroxide	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
ethanediol	Ingestion	Multiple animal species	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
dibenzoyl peroxide	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
dibenzoyl peroxide	Ingestion	Not classified for male reproduction	Rat	NOAEL 500 mg/kg/day	premating & during

					gestation
dibenzoyl peroxide	Ingestion	Not classified for development	Rat	NOAEL 500 mg/kg/day	premating & during gestation
ethanediol	Dermal	Not classified for development	Mouse	NOAEL 3,549 mg/kg/day	during organogenesis
ethanediol	Ingestion	Not classified for development	Mouse	LOAEL 750 mg/kg/day	during organogenesis
ethanediol	Inhalation	Not classified for development	Mouse	NOAEL 1,000 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
ethanediol	Ingestion	heart | nervous system | kidney and/or bladder | respiratory system	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
ethanediol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
ethanediol	Ingestion	liver	Not classified	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
ethanediol	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg/day	2 years
ethanediol	Ingestion	vascular system	Not classified	Rat	NOAEL 200 mg/kg/day	2 years
ethanediol	Ingestion	heart | hematopoietic system | liver | immune system | muscles	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
ethanediol	Ingestion	respiratory system	Not classified	Mouse	NOAEL 12,000 mg/kg/day	2 years
ethanediol	Ingestion	skin | endocrine system | bone, teeth, nails, and/or hair | nervous system | eyes	Not classified	Multiple animal species	NOAEL 1,000 mg/kg/day	2 years
Zinc Stearate	Ingestion	heart | endocrine system | gastrointestinal tract | hematopoietic system | liver | immune system | nervous system | eyes | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 1,000 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.

11.2. Information on other hazards

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

SECTION 12: Ecological information

The information below may not agree with the 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 #	Organism	Type	Exposure	Test endpoint	Test result
dibenzoyl peroxide	94-36-0	Green algae	Experimental	72 hours	EC50	0.071 mg/l
dibenzoyl peroxide	94-36-0	Rainbow trout	Experimental	96 hours	LC50	0.06 mg/l
dibenzoyl peroxide	94-36-0	Water flea	Experimental	48 hours	EC50	0.11 mg/l
dibenzoyl peroxide	94-36-0	Green algae	Experimental	72 hours	NOEC	0.02 mg/l
dibenzoyl peroxide	94-36-0	Water flea	Experimental	21 days	EC10	0.001 mg/l
dibenzoyl peroxide	94-36-0	Activated sludge	Experimental	30 minutes	EC50	35 mg/l
dibenzoyl peroxide	94-36-0	Redworm	Experimental	14 days	LC50	>1,000 mg/kg (Dry Weight)
dibenzoyl peroxide	94-36-0	Soil microbes	Experimental	28 days	EC50	2,300 mg/kg (Dry Weight)
Isodecyl benzoate	131298-44-7	Green algae	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Isodecyl benzoate	131298-44-7	Rainbow trout	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Isodecyl benzoate	131298-44-7	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Isodecyl benzoate	131298-44-7	Fathead minnow	Experimental	33 days	No tox obs at lmt of water sol	>100 mg/l
Isodecyl benzoate	131298-44-7	Green algae	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Isodecyl benzoate	131298-44-7	Midge	Experimental	28 days	NOEC	64.7 mg/kg (Dry Weight)
Isodecyl benzoate	131298-44-7	Water flea	Experimental	21 days	No tox obs at lmt of water sol	>100 mg/l
Isodecyl benzoate	131298-44-7	Activated sludge	Experimental	3 hours	EC50	>100 mg/l
ethanediol	107-21-1	Bacteria	Experimental	16 hours	EC50	10,000 mg/l
ethanediol	107-21-1	Fathead minnow	Experimental	96 hours	LC50	8,050 mg/l
ethanediol	107-21-1	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
ethanediol	107-21-1	Water flea	Experimental	48 hours	EC50	>1,100 mg/l
ethanediol	107-21-1	Green algae	Experimental	72 hours	NOEC	1,000 mg/l
ethanediol	107-21-1	Water flea	Experimental	21 days	NOEC	100 mg/l
Calcium sulphate	7778-18-9	Activated sludge	Estimated	3 hours	NOEC	1,000 mg/l
Calcium sulphate	7778-18-9	Algae or other aquatic plants	Experimental	96 hours	EC50	3,200 mg/l

Calcium sulphate	7778-18-9	Bluegill	Experimental	96 hours	LC50	>2,980 mg/l
Calcium sulphate	7778-18-9	Water flea	Experimental	48 hours	LC50	>1,970 mg/l
Calcium sulphate	7778-18-9	Water flea	Estimated	21 days	NOEC	1,270 mg/l
Zinc Stearate	557-05-1	Water flea	Experimental	48 hours	EC50	>100 mg/l
Zinc Stearate	557-05-1	Zebra Fish	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
dibenzoyl peroxide	94-36-0	Experimental Biodegradation	28 days	BOD	71 %BOD/ThOD	OECD 301D - Closed bottle test
dibenzoyl peroxide	94-36-0	Experimental Hydrolysis		Hydrolytic half-life	5.2 hours (t 1/2)	OECD 111 Hydrolysis func of pH
Isodecyl benzoate	131298-44-7	Experimental Biodegradation	28 days	BOD	77.7 %BOD/ThOD	OECD 301F - Manometric respirometry
ethanediol	107-21-1	Experimental Biodegradation	14 days	BOD	90 %BOD/ThOD	OECD 301C - MITI test (I)
Calcium sulphate	7778-18-9	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Zinc Stearate	557-05-1	Experimental Biodegradation	28 days	BOD	14.6 %BOD/ThOD	OECD 301D - Closed bottle test

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
dibenzoyl peroxide	94-36-0	Experimental Bioconcentration		Log Kow	3.2	OECD 117 log Kow HPLC method
Isodecyl benzoate	131298-44-7	Modeled Bioconcentration		Bioaccumulation factor	288	Catalogic™
Isodecyl benzoate	131298-44-7	Experimental Bioconcentration		Log Kow	4.61	EC A.8 Partition Coefficient
ethanediol	107-21-1	Experimental Bioconcentration		Log Kow	-1.36	
Calcium sulphate	7778-18-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Zinc Stearate	557-05-1	Experimental Bioconcentration		Log Kow	4.64	OECD 117 log Kow HPLC method

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
dibenzoyl peroxide	94-36-0	Experimental Mobility in Soil	Koc	6,310 l/kg	OECD 121 Estim. of Koc by HPLC
Isodecyl benzoate	131298-44-7	Modeled Mobility in Soil	Koc	2,600 l/kg	Episuite™
Zinc Stearate	557-05-1	Experimental Mobility in Soil	Koc	1,510 l/kg	OECD 121 Estim. of Koc by HPLC

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Other adverse effects

This material does not contain any substances that are assessed to be an endocrine disruptor for environmental effects

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

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)
08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances

SECTION 14: Transportation information

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number	UN3108	UN3108	UN3108
14.2 UN proper shipping name	ORGANIC PEROXIDE TYPE E, SOLID(DIBENZOYL PEROXIDE (AS A PASTE), <= 52%)	ORGANIC PEROXIDE TYPE E, SOLID(DIBENZOYL PEROXIDE (AS A PASTE), <= 52%)	ORGANIC PEROXIDE TYPE E, SOLID(DIBENZOYL PEROXIDE (AS A PASTE), <= 52%; BENZOYL PEROXIDE)
14.3 Transport hazard class(es)	5.2	5.2	5.2
14.4 Packing group	Not applicable.	Not applicable.	Not applicable.
14.5 Environmental hazards	Environmentally Hazardous	Not applicable	Marine Pollutant
14.6 Special precautions for user	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.
14.7 Transport in bulk according to Annex II of Marpol 73/78 and IBC Code	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.
ADR Classification Code	P1	Not applicable.	Not applicable.

IMDG Segregation Code	Not applicable.	Not applicable.	NONE

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
dibenzoyl peroxide	94-36-0	Gr. 3: Not classifiable	International Agency for Research on Cancer

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

COMAH Regulation, SI 2015/483

Seveso hazard categories, Annex 1, Part 1
None

Seveso named dangerous substances, Annex 1, Part 2

Dangerous Substances	Identifier(s)	Qualifying quantity (tonnes) for the application of	
		Lower-tier requirements	Upper-tier requirements
dibenzoyl peroxide	94-36-0	10	50

Regulation (EU) No 649/2012, as amended for GB

No chemicals listed

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this substance/mixture in accordance with Regulation (EC) No 1907/2006, as amended for GB.

SECTION 16: Other information

List of relevant H statements

H241	Heating may cause a fire or explosion.
H242	Heating may cause a fire.
H302	Harmful if swallowed.

H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure: kidney/urinary tract.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Revision information:
Section 12: Component ecotoxicity information information was modified.
Section 12: Mobility in soil information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 14 Other Dangerous Goods – Regulation Data information was modified.
Section 14 Proper Shipping Name information was modified.
Section 14: Transportation classification information was deleted.

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. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

3M SDSs for Great Britain are available at www.3M.com/uk
For Northern Ireland documents, please contact your 3M representative to obtain a copy.

Safety Data Sheet

Document group:	34-2076-7	**Version number:**	6.00
Revision date:	19/10/2023	**Supersedes date:**	09/02/2023

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (1907/2006), as amended for GB.

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

1.1. Product identifier
3M(TM) 51004 - Filler

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

Identified uses
Automotive.

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
The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.
The aspiration hazard classification is not required due to the product's physical form.
The carcinogenicity classification for titanium dioxide is not applicable based on physical form (material is not a powder).

CLASSIFICATION:
Flammable Liquid, Category 3 - Flam. Liq. 3; H226
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Skin Sensitization, Category 1 - Skin Sens. 1; H317

Reproductive Toxicity, Category 2 - Repr. 2; H361d
Specific Target Organ Toxicity-Repeated Exposure, Category 1 - STOT RE 1; H372
Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H335
Hazardous to the Aquatic Environment (Chronic), Category 3 - Aquatic Chronic 3; H412

For full text of H phrases, see Section 16.

2.2. Label elements
The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

SIGNAL WORD
DANGER.

Symbols
GHS02 (Flame) |GHS07 (Exclamation mark) |GHS08 (Health Hazard) |

Pictograms

Ingredient	CAS Nbr	EC No.	% by Wt
styrene	100-42-5	202-851-5	< 20
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	42978-66-5	256-032-2	< 3
maleic anhydride	108-31-6	203-571-6	< 0.1

HAZARD STATEMENTS:

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H361d	Suspected of damaging the unborn child.
H335	May cause respiratory irritation.
H372	Causes damage to organs through prolonged or repeated exposure: sensory organs.
H412	Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260A	Do not breathe vapours.
P280K	Wear protective gloves and respiratory protection.

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 + P378	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

SUPPLEMENTAL INFORMATION:

Supplemental Hazard Statements:

EUH211	Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.

Supplemental Precautionary Statements:
Provide ventilation adequate to maintain vapour concentration below lower explosive concentration.

14% of the mixture consists of components of unknown acute oral toxicity.

44% of the mixture consists of components of unknown acute inhalation toxicity.
Contains 14% of components with unknown hazards to the aquatic environment.

EU VOC Directive (2004/42/EC) labelling: 2004/42/EC IIB(b)(250)
100 g/l

2.3. Other hazards

None known.
This material does not contain any substances that are assessed to be a PBT or vPvB

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP], as amended for GB
Unsatured Polyester Resin	None	15 - 40	Aquatic Chronic 4, H413
Talc	(CAS-No.) 14807-96-6 (EC-No.) 238-877-9	10 - 30	Substance with a national occupational exposure limit
Dolomite	(CAS-No.) 16389-88-1 (EC-No.) 240-440-2	5 - 20	Substance with a national occupational exposure limit
styrene	(CAS-No.) 100-42-5 (EC-No.) 202-851-5 (UK REACH-No.) 01-2119457861-32	< 20	Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361d STOT RE 1, H372 Nota D Aquatic Chronic 3, H412 Asp. Tox. 1, H304 STOT SE 3, H335
Unsatured Polyester Resin 2	Trade Secret	1 - 10	Substance not classified as hazardous
Oxide glass chemicals	(CAS-No.) 65997-17-3 (EC-No.) 266-046-0	5 - 10	Substance with a national occupational exposure limit

Titanium dioxide	(CAS-No.) 13463-67-7 (EC-No.) 236-675-5 (UK REACH-No.) 01-2119489379-17	1 - 5	Carc. 2, H351 (inhalation)
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	(CAS-No.) 42978-66-5 (EC-No.) 256-032-2 (UK REACH-No.) 01-2119484613-34	< 3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 2, H411
Derivative of a bentonite clay	Trade Secret	< 2	Substance not classified as hazardous
Rheological additive	Trade Secret	< 2	Substance not classified as hazardous
M-TOLYLDIETHANOLAMINE	(CAS-No.) 91-99-6 (EC-No.) 202-114-8 (UK REACH-No.) 01-2120791683-42	< 1	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1B, H317 STOT RE 2, H373
N-ethyl-2-pyrrolidone	(CAS-No.) 2687-91-4 (EC-No.) 220-250-6 (UK REACH-No.) 01-2119472138-36	0.05 - 0.5	Repr. 1B, H360D Eye Dam. 1, H318
maleic anhydride	(CAS-No.) 108-31-6 (EC-No.) 203-571-6 (UK REACH-No.) 01-2119472428-31	< 0.1	EUH071 Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1A, H317 STOT RE 1, H372

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

Specific Concentration Limits

Ingredient	Identifier(s)	Specific Concentration Limits
maleic anhydride	(CAS-No.) 108-31-6 (EC-No.) 203-571-6 (UK REACH-No.) 01-2119472428-31	(C >= 0.001%) Skin Sens. 1A, H317
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	(CAS-No.) 42978-66-5 (EC-No.) 256-032-2 (UK REACH-No.) 01-2119484613-34	(C >= 10%) STOT SE 3, H335

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
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. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed
The most important symptoms and effects based on the GB CLP classification include:
Irritating to the respiratory tract (coughing, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain). Irritation to the skin (localized redness, swelling, itching, and dryness). Allergic skin reaction (redness, swelling, blistering, and itching). Serious irritation to the eyes (significant redness, swelling, pain, tearing, and impaired vision). Target organ effects. See Section 11 for additional details.

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. No closed-cup flash point but flam/expl. vapor air mixture Material displays no closed-cup flash point but may form flammable/explosive vapor air mixture.

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. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Keep away from sparks/flames/extreme heat Keep away from sparks, flames, and extreme heat. 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
Eliminate ignition sources when cleaning spill Eliminate all potential ignition sources when cleaning up spill. Cover spill area with a fire-extinguishing foam. 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. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. 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
For industrial/occupational use only. Not for consumer sale or use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe 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.) Wear low static or properly grounded shoes. Use personal protective equipment (eg. gloves, respirators…) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapour accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer. Keep away from sparks/flames/extreme heat Keep away from sparks, flames, and extreme heat.

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
styrene	100-42-5	UK HSC	TWA:430 mg/m3(100 ppm);STEL:1080 mg/m3(250 ppm)	
maleic anhydride	108-31-6	UK HSC	TWA: 1 mg/m³; STEL: 3 mg/m³	Respiratory Sensitizer
Titanium dioxide	13463-67-7	UK HSC	TWA(respirable):4 mg/m3;TWA(Inhalable):10 mg/m3	
Talc	14807-96-6	UK HSC	TWA(as respirable dust):1 mg/m³	
DUST, INERT OR NUISANCE	16389-88-1	UK HSC	TWA(as respirable dust):4 mg/m3;TWA(as inhalable dust):10 mg/m3	
Glass, oxide, chemicals	65997-17-3	UK HSC	TWA(as fiber):5 mg/m3(1	

			fibers/ml)
Oxide glass chemicals	65997-17-3	Manufacturer determined	TWA(as non-fibrous, respirable)(8 hours):3 mg/m3;TWA(as non-fibrous, inhalable fraction)(8 hours):10 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 general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment. Use explosion-proof ventilation equipment. Provide ventilation adequate to maintain vapor concentration below lower explosive concentration.

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.
Indirect vented goggles.

Applicable Norms/Standards
Use eye protection conforming to EN 166

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended:

Material	Thickness (mm)	Breakthrough Time
Polymer laminate	>0.30	4-8 hours

The glove data presented are based on the substance driving dermal toxicity and the conditions present at the time of testing. Breakthrough time may be altered when the glove is subjected to use conditions that place additional stress on the glove.

Applicable Norms/Standards
Use gloves tested to EN 374

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

Applicable Norms/Standards
Use a respirator conforming to EN 140 or EN 136: filter types A & P

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid. (Pastie)
Specific Physical Form:	Paste
Colour	Beige
Odor	Characteristic Odour
Odour threshold	*Not applicable.*
Melting point/freezing point	-30 ºC [*Details:*Literary value styrene]
Boiling point/boiling range	145 ºC [*Details:*Literary value styrene]
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	1.1 % [*Details:*Literary value styrene]
Flammable Limits(UEL)	6.1 % [*Details:*Literary value styrene]
Flash point	31 ºC [*Test Method:*Closed Cup] [*Details:*Literary value styrene]
Autoignition temperature	490 ºC [*Details:*Literary value styrene]
Decomposition temperature	*No data available.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	*No data available.*
Water solubility	0.32 g/l [*Details:*Literary value styrene]
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	2.96 [*Details:*25°C]
Vapour pressure	0.67 kPa [@ 20 ºC]
Density	1.1 g/cm3 [@ 20 ºC]
Relative density	*No data available.*
Relative Vapour Density	*No data available.*

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	*No data available.*
Evaporation rate	*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 may occur.

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

10.5 Incompatible materials
Strong acids.
Strong oxidising agents.

Other Materials/Conditions to avoid: Polymerization initiators Copper and Copper alloys Brass

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 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 hazard classes as defined in the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain.

Signs and Symptoms of Exposure

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

Inhalation
May be harmful if inhaled. 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:
Auditory effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears. Liver effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

Prolonged or repeated exposure may cause target organ effects:
Ocular effects: Signs/symptoms may include blurred or significantly impaired vision. Auditory effects: Signs/symptoms

may include hearing impairment, balance dysfunction and ringing in the ears. Liver effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

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 >2,000 - =5,000 mg/kg
Overall product	Inhalation-Vapour(4 hr)		No data available; calculated ATE >20 - =50 mg/l
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
Talc	Dermal		LD50 estimated to be > 5,000 mg/kg
Talc	Ingestion		LD50 estimated to be > 5,000 mg/kg
Unsatured Polyester Resin	Dermal	Professional judgement	LD50 > 2,000 mg/kg
Unsatured Polyester Resin	Inhalation-Dust/Mist (4 hours)	Professional judgement	LC50 > 5 mg/l
Unsatured Polyester Resin	Ingestion	Professional judgement	LD50 > 2,000 mg/kg
styrene	Dermal	Rat	LD50 > 2,000 mg/kg
styrene	Inhalation-Vapour (4 hours)	Rat	LC50 11.8 mg/l
styrene	Ingestion	Rat	LD50 5,000 mg/kg
Dolomite	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Dolomite	Ingestion	Rat	LD50 > 2,000 mg/kg
Oxide glass chemicals	Dermal		LD50 estimated to be > 5,000 mg/kg
Oxide glass chemicals	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	Dermal	Rabbit	LD50 > 2,000 mg/kg
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	Ingestion	Rat	LD50 > 2,000 mg/kg
M-TOLYLDIETHANOLAMINE	Dermal	Rat	LD50 > 2,000 mg/kg
M-TOLYLDIETHANOLAMINE	Ingestion	Rat	LD50 >300, <2000 mg/kg
N-ethyl-2-pyrrolidone	Dermal	Rat	LD50 > 2,000 mg/kg
N-ethyl-2-pyrrolidone	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.1 mg/l
N-ethyl-2-pyrrolidone	Ingestion	Rat	LD50 3,200 mg/kg
maleic anhydride	Dermal	Rabbit	LD50 2,620 mg/kg

maleic anhydride	Ingestion	Rat	LD50 1,030 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Talc	Rabbit	No significant irritation
styrene	Professional judgement	Mild irritant
Dolomite	Professional judgement	No significant irritation
Oxide glass chemicals	Professional judgement	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	Rabbit	Mild irritant
M-TOLYLDIETHANOLAMINE	similar compounds	Irritant
N-ethyl-2-pyrrolidone	Rabbit	Minimal irritation
maleic anhydride	Human and animal	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Talc	Rabbit	No significant irritation
styrene	Professional judgement	Moderate irritant
Dolomite	Professional judgement	No significant irritation
Oxide glass chemicals	Professional judgement	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	Rabbit	Moderate irritant
M-TOLYLDIETHANOLAMINE	similar compounds	Corrosive
N-ethyl-2-pyrrolidone	Rabbit	Corrosive
maleic anhydride	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
styrene	Guinea pig	Not classified
Titanium dioxide	Human and animal	Not classified
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	Multiple animal species	Sensitising

M-TOLYLDIETHANOLAMINE	similar compounds	Sensitising
N-ethyl-2-pyrrolidone	Mouse	Not classified
maleic anhydride	Multiple animal species	Sensitising

Respiratory Sensitisation

Name	Species	Value
Talc	Human	Not classified
maleic anhydride	Human	Sensitising

Germ Cell Mutagenicity

Name	Route	Value
Talc	In Vitro	Not mutagenic
Talc	In vivo	Not mutagenic
styrene	In Vitro	Some positive data exist, but the data are not sufficient for classification
styrene	In vivo	Some positive data exist, but the data are not sufficient for classification
Oxide glass chemicals	In Vitro	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	In vivo	Not mutagenic
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
M-TOLYLDIETHANOLAMINE	In Vitro	Not mutagenic
N-ethyl-2-pyrrolidone	In Vitro	Not mutagenic
N-ethyl-2-pyrrolidone	In vivo	Not mutagenic
maleic anhydride	In vivo	Not mutagenic
maleic anhydride	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Talc	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
styrene	Ingestion	Mouse	Carcinogenic.
styrene	Inhalation	Human and animal	Carcinogenic.
Oxide glass chemicals	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Talc	Ingestion	Not classified for development	Rat	NOAEL 1,600 mg/kg	during organogenesis
styrene	Ingestion	Not classified for female reproduction	Rat	NOAEL 21 mg/kg/day	3 generation
styrene	Inhalation	Not classified for female reproduction	Rat	NOAEL 2.1	2 generation

				mg/l	
styrene	Inhalation	Not classified for male reproduction	Rat	NOAEL 2.1 mg/l	2 generation
styrene	Ingestion	Not classified for male reproduction	Rat	NOAEL 400 mg/kg/day	60 days
styrene	Ingestion	Not classified for development	Rat	NOAEL 400 mg/kg/day	during gestation
styrene	Inhalation	Not classified for development	Multiple animal species	NOAEL 2.1 mg/l	during gestation
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	Ingestion	Not classified for development	Rat	NOAEL 250 mg/kg/day	during organogenesis
M-TOLYLDIETHANOLAMINE	Ingestion	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	premating into lactation
M-TOLYLDIETHANOLAMINE	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	29 days
M-TOLYLDIETHANOLAMINE	Ingestion	Not classified for development	Rat	NOAEL 300 mg/kg/day	premating into lactation
N-ethyl-2-pyrrolidone	Inhalation	Not classified for female reproduction	Rat	NOAEL 0.2 mg/l	13 weeks
N-ethyl-2-pyrrolidone	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	3 months
N-ethyl-2-pyrrolidone	Dermal	Not classified for development	Rat	NOAEL 400 mg/kg/day	during gestation
N-ethyl-2-pyrrolidone	Ingestion	Toxic to development	Rabbit	NOAEL 60 mg/kg/day	during gestation
maleic anhydride	Ingestion	Not classified for female reproduction	Rat	NOAEL 55 mg/kg/day	2 generation
maleic anhydride	Ingestion	Not classified for male reproduction	Rat	NOAEL 55 mg/kg/day	2 generation
maleic anhydride	Ingestion	Not classified for development	Rat	NOAEL 140 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
styrene	Inhalation	auditory system	Causes damage to organs	Multiple animal species	LOAEL 4.3 mg/l	not available
styrene	Inhalation	liver	Causes damage to organs	Mouse	LOAEL 2.1 mg/l	not available
styrene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	occupational exposure
styrene	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
styrene	Inhalation	endocrine system	Not classified	Rat	NOAEL Not available	not available
styrene	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2.1 mg/l	not available
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
M-TOLYLDIETHANOLAMINE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
N-ethyl-2-pyrrolidone	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
maleic anhydride	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Talc	Inhalation	pneumoconiosis	Repeated and prolonged exposure to large amounts of talc dust can cause lung injury	Human	NOAEL Not available	occupational exposure
Talc	Inhalation	pulmonary fibrosis | respiratory system	Not classified	Rat	NOAEL 18 mg/m³	113 weeks
styrene	Inhalation	auditory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL not available	occupational exposure
styrene	Inhalation	eyes	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
styrene	Inhalation	liver	May cause damage to organs though prolonged or repeated exposure	Mouse	LOAEL 0.85 mg/l	13 weeks
styrene	Inhalation	nervous system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	LOAEL 1.1 mg/l	not available
styrene	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 0.85 mg/l	7 days
styrene	Inhalation	endocrine system	Not classified	Rat	NOAEL 0.6 mg/l	10 days
styrene	Inhalation	respiratory system	Not classified	Multiple animal species	LOAEL 0.09 mg/l	not available
styrene	Inhalation	heart | gastrointestinal tract | bone, teeth, nails, and/or hair | muscles | kidney and/or bladder	Not classified	Multiple animal species	NOAEL 4.3 mg/l	2 years
styrene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 500 mg/kg/day	8 weeks
styrene	Ingestion	immune system	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	not available
styrene	Ingestion	liver | kidney and/or bladder	Not classified	Rat	NOAEL 677 mg/kg/day	6 months
styrene	Ingestion	hematopoietic system	Not classified	Dog	NOAEL 600 mg/kg/day	470 days
styrene	Ingestion	heart | respiratory system	Not classified	Rat	NOAEL 35 mg/kg/day	105 weeks
Oxide glass chemicals	Inhalation	respiratory system	Not classified	Human	NOAEL not available	occupational exposure
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	Dermal	skin	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 20 mg/kg/day	90 days
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	Dermal	heart | endocrine system | gastrointestinal tract | hematopoietic system | liver | muscles | nervous system | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 200 mg/kg/day	90 days
M-TOLYLDIETHANOLAMINE	Ingestion	kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 50 mg/kg/day	28 days
M-TOLYLDIETHANOLAMINE	Ingestion	muscles	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 150 mg/kg/day	28 days
M-	Ingestion	hematopoietic	Not classified	Rat	NOAEL 500	28 days

TOLYLDIETHANOLAMINE		system | liver | immune system | heart | skin | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | nervous system | eyes | respiratory system | vascular system			mg/kg/day	
N-ethyl-2-pyrrolidone	Inhalation	liver	Not classified	Rat	NOAEL 0.2 mg/l	13 weeks
N-ethyl-2-pyrrolidone	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.06 mg/l	13 weeks
N-ethyl-2-pyrrolidone	Inhalation	heart | skin | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | immune system | muscles | nervous system | eyes | kidney and/or bladder | vascular system	Not classified	Rat	NOAEL 0.2 mg/l	13 weeks
N-ethyl-2-pyrrolidone	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 100 mg/kg/day	3 months
N-ethyl-2-pyrrolidone	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	3 months
N-ethyl-2-pyrrolidone	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 100 mg/kg/day	3 months
maleic anhydride	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.0011 mg/l	6 months
maleic anhydride	Inhalation	endocrine system | hematopoietic system | nervous system | kidney and/or bladder | heart | liver | eyes	Not classified	Rat	NOAEL 0.0098 mg/l	6 months
maleic anhydride	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 55 mg/kg/day	80 days
maleic anhydride	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 250 mg/kg/day	183 days
maleic anhydride	Ingestion	heart | nervous system	Not classified	Rat	NOAEL 600 mg/kg/day	183 days
maleic anhydride	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 150 mg/kg/day	80 days
maleic anhydride	Ingestion	hematopoietic system	Not classified	Dog	NOAEL 60 mg/kg/day	90 days
maleic anhydride	Ingestion	skin | endocrine system | immune system | eyes | respiratory system	Not classified	Rat	NOAEL 150 mg/kg/day	80 days

Aspiration Hazard

Name	Value
styrene	Aspiration hazard

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.

11.2. Information on other hazards

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

SECTION 12: Ecological information

The information below may not agree with the 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 #	Organism	Type	Exposure	Test endpoint	Test result
Unsatured Polyester Resin	None	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Talc	14807-96-6	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Dolomite	16389-88-1	Water flea	Estimated	48 hours	EC50	190 mg/l
Dolomite	16389-88-1	Western Mosquitofish	Estimated	96 hours	LC50	>100 mg/l
Dolomite	16389-88-1	Rainbow trout	Estimated	21 days	NOEC	>100 mg/l
styrene	100-42-5	Activated sludge	Experimental	30 minutes	EC50	500 mg/l
styrene	100-42-5	Fathead minnow	Experimental	96 hours	LC50	4.02 mg/l
styrene	100-42-5	Green algae	Experimental	72 hours	EC50	4.9 mg/l
styrene	100-42-5	Water flea	Experimental	48 hours	EC50	4.7 mg/l
styrene	100-42-5	Green algae	Experimental	96 hours	EC10	0.28 mg/l
styrene	100-42-5	Water flea	Experimental	21 days	NOEC	1.01 mg/l
Oxide glass chemicals	65997-17-3	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
Oxide glass chemicals	65997-17-3	Water flea	Experimental	72 hours	EC50	>1,000 mg/l
Oxide glass chemicals	65997-17-3	Zebra Fish	Experimental	96 hours	LC50	>1,000 mg/l
Oxide glass chemicals	65997-17-3	Green algae	Experimental	72 hours	NOEC	>=1,000 mg/l
Titanium dioxide	13463-67-7	Activated sludge	Experimental	3 hours	NOEC	>=1,000 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	42978-66-5	Activated sludge	Experimental	30 minutes	EC50	>1,000 mg/l
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-	42978-66-5	Golden Orfe	Experimental	96 hours	LC50	4.6 mg/l

ethanediyl)] diacrylate						
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	42978-66-5	Green algae	Experimental	72 hours	ErC50	65.9 mg/l
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	42978-66-5	Water flea	Experimental	48 hours	EC50	89 mg/l
M-TOLYLDIETHANOLAMINE	91-99-6	Activated sludge	Experimental	3 hours	EC10	817 mg/l
M-TOLYLDIETHANOLAMINE	91-99-6	Green algae	Experimental	72 hours	EC50	>100 mg/l
M-TOLYLDIETHANOLAMINE	91-99-6	Water flea	Experimental	48 hours	EC50	107 mg/l
M-TOLYLDIETHANOLAMINE	91-99-6	Zebra Fish	Experimental	96 hours	LC50	>102 mg/l
M-TOLYLDIETHANOLAMINE	91-99-6	Green algae	Experimental	72 hours	NOEC	100 mg/l
N-ethyl-2-pyrrolidone	2687-91-4	Activated sludge	Experimental	30 minutes	EC20	>1,000 mg/l
N-ethyl-2-pyrrolidone	2687-91-4	Green algae	Experimental	72 hours	ErC50	>101 mg/l
N-ethyl-2-pyrrolidone	2687-91-4	Water flea	Experimental	48 hours	EC50	>104 mg/l
N-ethyl-2-pyrrolidone	2687-91-4	Zebra Fish	Experimental	96 hours	LC50	>464 mg/l
N-ethyl-2-pyrrolidone	2687-91-4	Water flea	Analogous Compound	21 days	NOEC	12.5 mg/l
N-ethyl-2-pyrrolidone	2687-91-4	Green algae	Experimental	72 hours	NOEC	101 mg/l
maleic anhydride	108-31-6	Bacteria	Experimental	18 hours	EC10	44.6 mg/l
maleic anhydride	108-31-6	Rainbow trout	Experimental	96 hours	LC50	75 mg/l
maleic anhydride	108-31-6	Green algae	Hydrolysis Product	72 hours	ErC50	74.4 mg/l
maleic anhydride	108-31-6	Water flea	Hydrolysis Product	48 hours	EC50	93.8 mg/l
maleic anhydride	108-31-6	Water flea	Experimental	21 days	NOEC	10 mg/l
maleic anhydride	108-31-6	Green algae	Hydrolysis Product	72 hours	ErC10	11.8 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Unsatured Polyester Resin	None	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Talc	14807-96-6	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Dolomite	16389-88-1	Data not availbl-insufficient	N/A	N/A	N/A	N/A
styrene	100-42-5	Experimental Biodegradation	28 days	BOD	70.9 %BOD/ThOD	
styrene	100-42-5	Experimental Photolysis		Photolytic half-life (in air)	6.64 hours (t 1/2)	
Oxide glass	65997-17-3	Data not availbl-	N/A	N/A	N/A	N/A

chemicals		insufficient				
Titanium dioxide	13463-67-7	Data not availbl-insufficient	N/A	N/A	N/A	N/A
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	42978-66-5	Modeled Biodegradation	28 days	CO2 evolution	75 %CO2 evolution/THCO2 evolution	Catalogic™
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	42978-66-5	Analogous Compound Biodegradation	28 days	Dissolv. Organic Carbon Deplet	90-100 %removal of DOC	OECD 301A - DOC Die Away Test
M-TOLYLDIETHANOLAMINE	91-99-6	Experimental Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301D - Closed bottle test
N-ethyl-2-pyrrolidone	2687-91-4	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	90-100 %removal of DOC	OECD 301A - DOC Die Away Test
maleic anhydride	108-31-6	Hydrolysis product Biodegradation	25 days	CO2 evolution	>90 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
maleic anhydride	108-31-6	Experimental Hydrolysis		Hydrolytic half-life	0.37 minutes (t 1/2)	

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Unsatured Polyester Resin	None	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Talc	14807-96-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Dolomite	16389-88-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
styrene	100-42-5	Experimental Bioconcentration		Log Kow	2.96	
Oxide glass chemicals	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Experimental BCF - Fish	42 days	Bioaccumulation factor	9.6	
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	42978-66-5	Experimental Bioconcentration		Log Kow	2	OECD 117 log Kow HPLC method
M-TOLYLDIETHANOLAMINE	91-99-6	Experimental Bioconcentration		Log Kow	1.9	OECD 117 log Kow HPLC method
N-ethyl-2-pyrrolidone	2687-91-4	Experimental Bioconcentration		Log Kow	-0.2	EC A.8 Partition Coefficient
maleic anhydride	108-31-6	Experimental Bioconcentration		Log Kow	-2.61	OECD 107 log Kow shke flsk mtd

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
M-TOLYLDIETHANOLAMINE	91-99-6	Experimental Mobility in Soil	Koc	214 l/kg	EC C.19 Estim. of Koc by HPLC

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Other adverse effects

This material does not contain any substances that are assessed to be an endocrine disruptor for environmental effects

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

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)
08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances

SECTION 14: Transportation information

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number	UN1866	UN1866	UN1866
14.2 UN proper shipping name	RESIN SOLUTION	RESIN SOLUTION	RESIN SOLUTION
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	III	III	III
14.5 Environmental hazards	Not Environmentally Hazardous	Not applicable	Not a Marine Pollutant
14.6 Special precautions for user	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.
14.7 Transport in bulk according to Annex II of Marpol 73/78 and IBC Code	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.

ADR Classification Code	F1	Not applicable.	Not applicable.
IMDG Segregation Code	Not applicable.	Not applicable.	NONE

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
styrene	100-42-5	Grp. 2A: Probable human carc.	International Agency for Research on Cancer
Titanium dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Global inventory status
Contact 3M for more information.

COMAH Regulation, SI 2015/483
Seveso hazard categories, Annex 1, Part 1

Hazard Categories	Qualifying quantity (tonnes) for the application of	
	Lower-tier requirements	Upper-tier requirements
P5c FLAMMABLE LIQUIDS*	5000	50000

*If maintained at a temperature above its boiling point or if particular processing conditions, such as high pressure or high temperature, may create major-accident hazards, P5a or P5b FLAMMABLE LIQUIDS may apply
Seveso named dangerous substances, Annex 1, Part 2

Dangerous Substances	Identifier(s)	Qualifying quantity (tonnes) for the application of	
		Lower-tier requirements	Upper-tier requirements
styrene	100-42-5	10	50
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	42978-66-5	200	500

Regulation (EU) No 649/2012, as amended for GB
No chemicals listed

15.2. Chemical Safety Assessment
A chemical safety assessment has not been carried out for this substance/mixture in accordance with Regulation (EC) No 1907/2006, as amended for GB.

SECTION 16: Other information

List of relevant H statements

EUH071	Corrosive to the respiratory tract.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351i	Suspected of causing cancer by inhalation.
H360D	May damage the unborn child.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H372	Causes damage to organs through prolonged or repeated exposure: sensory organs.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Revision information:
GB Section 02: CLP Ingredient table information was modified.
GB Section 04: First Aid - Symptoms and Effects (GB CLP) information was modified.
GB Section 15: Carcinogenicity information information was modified.
Label: CLP Classification information was modified.
Label: CLP Environmental Hazard Statements information was modified.
Label: CLP Precautionary - Prevention information was modified.
Label: CLP Precautionary - Response information was modified.
Section 02: Label Elements: GB Percent Unknown information was modified.
Label: Graphic information was modified.
Section 02: SDS Elements: CLP Supplemental Precautionary Statements information was added.
Section 3: Composition/ Information of ingredients table information was modified.
Section 03: SCL table information was modified.
Section 5: Fire - Special hazards information information was modified.
Section 6: Accidental release clean-up information information was modified.
Section 6: Accidental release personal information information was modified.
Section 7: Precautions safe handling information information was modified.
Section 8: Appropriate Engineering controls information information was modified.
Section 8: Eye/face protection information information was modified.
Section 8: glove data value information was modified.
Section 8: Personal Protection - Skin/hand information information was modified.
Section 8: Skin protection - protective clothing information information was modified.
Section 9: Decomposition Temperature information was modified.
Section 9: Autoignition temperature information information was modified.
Section 9: Boiling point information information was modified.
Section 9: Density information information was modified.
Section 9: Flammable limits (LEL) information information was modified.
Section 9: Flammable limits (UEL) information information was modified.
Section 9: Flash point information information was modified.
Section 09: Kinematic Viscosity information information was modified.
Section 9: Melting point information information was modified.

Section 9: n-octanol/water coefficient information information was modified.
Section 9: Relative density information information was modified.
Section 9: Solubility (non-water) information was added.
Section 9: Solubility as text (non-water) information was deleted.
Section 9: Solubility in water text information was deleted.
Section 9: Solubility in water value information was added.
Section 9: Vapour pressure value information was modified.
Section 10: Materials and conditions to avoid physical property information was added.
Section 10: Materials to avoid physical property information was modified.
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: Health Effects - Eye information information was modified.
Section 11: Health Effects - Skin information information was modified.
Section 11: Prolonged or repeated exposure may cause standard phrases 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: Mobility in soil information information was added.
Section 12: No Data text for mobility in soil information was deleted.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 14 Classification Code – Regulation Data information was modified.
Section 14 Hazard Class + Sub Risk – Regulation Data information was modified.
Section 14 Hazardous/Not Hazardous for Transportation information was modified.
Section 14 Other Dangerous Goods – Regulation Data information was modified.
Section 14 Packing Group – Regulation Data information was modified.
Section 14 Proper Shipping Name information was modified.
Section 14 Segregation – Regulation Data information was modified.
Section 14 UN Number Column data information was modified.
Section 14: Transportation classification information was deleted.
Section 15: Seveso Hazard Category Text information was added.
Section 15: Seveso Substance Text information was modified.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was modified.

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