Safety Data Sheet

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

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

1.1. Product identifier
3M MS SPRAYABLE SEALER P/N 08851

Product Identification Numbers

FS-9100-3141-8	FS-9100-3145-9	UU-0110-8708-5
7000033759	7000079954	7100235091

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

Identified uses
Automotive., Sealant.

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

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 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 Sensitization, Category 1A - Skin Sens. 1A; H317
Hazardous to the Aquatic Environment (Chronic), Category 2 - Aquatic Chronic 2; H411

For full text of H phrases, see Section 16.

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

SIGNAL WORD
WARNING.

Symbols
GHS02 (Flame) |GHS07 (Exclamation mark) |GHS09 (Environment) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	1760-24-3	217-164-6	0.1 - 1
Trimethoxyvinylsilane	2768-02-7	220-449-8	0.1 - 1
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	54068-28-9	483-270-6	0.1 - 0.5
Phenol, styrenated	61788-44-1	262-975-0	< 0.3
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate		915-687-0	0.01 - 0.03

HAZARD STATEMENTS:

H226	Flammable liquid and vapour.
H317	May cause an allergic skin reaction.
H411	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.
P273	Avoid release to the environment.
P280E	Wear protective gloves.

Response:

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.
P391	Collect spillage.

SUPPLEMENTAL INFORMATION:

Supplemental Hazard Statements:

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

15% of the mixture consists of components of unknown acute oral toxicity.

Contains 45% of components with unknown hazards to the aquatic environment.

EU VOC Directive (2004/42/EC) labelling: 2004/42/EC IIB(e)(840)
145g/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]
Limestone	(CAS-No.) 1317-65-3 (EC-No.) 215-279-6	15 - 40	Substance with a national occupational exposure limit
Ceramic materials and wares, chemicals	(CAS-No.) 66402-68-4 (EC-No.) 266-340-9	10 - 30	Substance not classified as hazardous
alpha-[3-(Dimethoxymethylsilyl)propyl]-omega-[3-(dimethoxymethylsilyl)propoxy]-poly[oxy(methyl-1,2-ethanediyl)]	(CAS-No.) 75009-88-0	3 - 20	Substance not classified as hazardous
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha."-1,2,3-propanetriyltris[. omega.-[3-(dimethoxymethylsilyl)propoxy]-	(CAS-No.) 151865-59-7	1 - 15	Substance not classified as hazardous
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	(CAS-No.) 68515-49-1 (EC-No.) 271-091-4 (REACH-No.) 01-2119422347-43	7 - 13	Substance with a national occupational exposure limit
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	(EC-No.) 918-167-1 (REACH-No.) 01-2119472146-39	5 - 10	Flam. Liq. 3, H226 Aquatic Chronic 4, H413 Asp. Tox. 1, H304 EUH066
Calcium carbonate	(CAS-No.) 471-34-1 (EC-No.) 207-439-9 (REACH-No.) 01-2119486795-18	1 - 5	Substance with a national occupational exposure limit
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-	(EC-No.) ELINCS 484-050-2 (REACH-No.) 01-	1 - 3	Aquatic Acute 1, H400,M=10 Aquatic Chronic 1, H410,M=10

oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	0000020228-74		
Titanium dioxide	(CAS-No.) 13463-67-7 (EC-No.) 236-675-5 (REACH-No.) 01-2119489379-17	1 - 3	Carc. 2, H351 (inhalation)
Trimethoxyvinylsilane	(CAS-No.) 2768-02-7 (EC-No.) 220-449-8 (REACH-No.) 01-2119513215-52	0.1 - 1	Skin Sens. 1B, H317 Flam. Liq. 3, H226 Acute Tox. 4, H332
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	(CAS-No.) 1760-24-3 (EC-No.) 217-164-6	0.1 - 1	Acute Tox. 4, H332 Acute Tox. 4, H302 Eye Dam. 1, H318 Skin Sens. 1, H317 STOT RE 2, H373
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	(CAS-No.) 54068-28-9 (EC-No.) ELINCS 483-270-6 (REACH-No.) 01-0000020199-67	0.1 - 0.5	Skin Sens. 1B, H317 Repr. 2, H361d STOT RE 1, H372 Aquatic Chronic 2, H411
Phenol, styrenated	(CAS-No.) 61788-44-1 (EC-No.) 262-975-0	< 0.3	Skin Sens. 1A, H317 Aquatic Chronic 2, H411
N-methyl-2-pyrrolidone	(CAS-No.) 872-50-4 (EC-No.) 212-828-1 (REACH-No.) 01-2119472430-46	< 0.3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 1B, H360D STOT SE 3, H335
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	(EC-No.) 915-687-0	0.01 - 0.03	Aquatic Acute 1, H400,M=1 Aquatic Chronic 1, H410,M=1 Skin Sens. 1A, H317 Repr. 2, H361f

Any entry in the Identifier(s) column that begins with the numbers 6, 7, 8, or 9 are a Provisional List Number provided by ECHA pending publication of the official EC Inventory Number for the substance.
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
N-methyl-2-pyrrolidone	(CAS-No.) 872-50-4 (EC-No.) 212-828-1 (REACH-No.) 01-2119472430-46	(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
If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, 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 CLP classification include:
Allergic skin reaction (redness, swelling, blistering, and itching).

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.
Irritant vapours or gases.	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
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. 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.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep cool. Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. 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
Limestone	1317-65-3	UK HSC	TWA(respirable):4 mg/m3;TWA(as respirable dust):4 mg/m3;TWA(Inhalable):10 mg/m3;TWA(as inhalable dust):10 mg/m3	
Titanium dioxide	13463-67-7	UK HSC	TWA(respirable):4 mg/m3;TWA(Inhalable):10 mg/m3	
DUST, INERT OR NUISANCE	471-34-1	UK HSC	TWA(as respirable dust):4 mg/m3;TWA(as inhalable dust):10 mg/m3	
Limestone	471-34-1	UK HSC	TWA(respirable):4 mg/m3;TWA(as respirable dust):4 mg/m3;TWA(Inhalable):10 mg/m3;TWA(as inhalable	

			dust):10 mg/m3	
1,2-Benzenedicarboxylic acid, 1,2-diisodecyl ester	68515-49-1	UK HSC	TWA:5 mg/m3	
N-methyl-2-pyrrolidone	872-50-4	UK HSC	TWA:40 mg/m3(10 ppm);STEL:80 mg/m3(20 ppm)	SKIN

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
N-methyl-2-pyrrolidone		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	4.8 mg/kg bw/d
N-methyl-2-pyrrolidone		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	14.4 mg/m³

Recommended monitoring procedures: Information on recommended monitoring procedures can be obtained from UK HSC

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.

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:
Full face shield.
Indirect vented goggles.

Applicable Norms/Standards
Use eye/face 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	=>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.
Specific Physical Form:	Thixotropic paste
Colour	Grey
Odor	Characteristic Particular
Odour threshold	*No data available.*
Melting point/freezing point	*Not applicable.*
Boiling point/boiling range	*Not applicable.*
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Flash point	53 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	50,000 mm²/sec
Water solubility	Nil
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	*No data available.*
Density	1.4 - 1.6 g/ml
Relative density	1.4 - 1.6 [*Ref Std:*WATER=1]
Relative Vapour Density	*No data available.*

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	145 g/l
Evaporation rate	*No data available.*
Percent volatile	7 - 9 %

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.

10.5 Incompatible materials
Water

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 internal hazard assessments.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Signs and Symptoms of Exposure

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

Inhalation
No health effects are expected.

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

Additional Health Effects:

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 >5,000 mg/kg
Overall product	Inhalation-Vapour(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Ceramic materials and wares, chemicals	Dermal		LD50 estimated to be > 5,000 mg/kg
Ceramic materials and wares, chemicals	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Limestone	Dermal	Rat	LD50 > 2,000 mg/kg
Limestone	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
Limestone	Ingestion	Rat	LD50 6,450 mg/kg
alpha-[3-(Dimethoxymethylsilyl)propyl]-omega-[3-(dimethoxymethylsilyl)propoxy]-poly[oxy(methyl-1,2-ethanediyl)]	Dermal		LD50 estimated to be > 5,000 mg/kg
alpha-[3-(Dimethoxymethylsilyl)propyl]-omega-[3-(dimethoxymethylsilyl)propoxy]-poly[oxy(methyl-1,2-ethanediyl)]	Ingestion	Rat	LD50 5,000 mg/kg
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	Dermal	Rabbit	LD50 > 3,160 mg/kg
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 12.5 mg/l
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	Ingestion	Rat	LD50 > 9,700 mg/kg
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	Inhalation-Vapour	Professional judgement	LC50 estimated to be 20 - 50 mg/l
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	Dermal	Rabbit	LD50 > 5,000 mg/kg
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	Ingestion	Rat	LD50 > 5,000 mg/kg
Calcium carbonate	Dermal	Rat	LD50 > 2,000 mg/kg
Calcium carbonate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
Calcium carbonate	Ingestion	Rat	LD50 6,450 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
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	Dermal	Rat	LD50 > 2,000
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.3
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	Ingestion	Rat	LD50 > 2,000

N-(3-(Trimethoxysilyl)propyl)ethylenediamine	Dermal	Rabbit	LD50 > 2,000 mg/kg
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	Inhalation-Dust/Mist (4 hours)	Rat	LC50 >1.49, <2.44 mg/l
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	Ingestion	Rat	LD50 1,897 mg/kg
Trimethoxyvinylsilane	Dermal	Rabbit	LD50 3,260 mg/kg
Trimethoxyvinylsilane	Inhalation-Vapour (4 hours)	Rat	LC50 16.8 mg/l
Trimethoxyvinylsilane	Ingestion	Rat	LD50 7,120 mg/kg
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	Dermal	Rat	LD50 > 2,000 mg/kg
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	Ingestion	Rat	LD50 > 2,000 mg/kg
N-methyl-2-pyrrolidone	Dermal	Rabbit	LD50 4,000 mg/kg
N-methyl-2-pyrrolidone	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.1 mg/l
N-methyl-2-pyrrolidone	Ingestion	Rat	LD50 4,320 mg/kg
Phenol, styrenated	Dermal	Rat	LD50 > 2,000 mg/kg
Phenol, styrenated	Ingestion	Rat	LD50 > 2,000 mg/kg
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Ingestion	Rat	LD50 3,125 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Ceramic materials and wares, chemicals	Rabbit	No significant irritation
Limestone	Rabbit	No significant irritation
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	Rabbit	Minimal irritation
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	Rabbit	Mild irritant
Calcium carbonate	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	Rabbit	No significant irritation
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	Rabbit	Mild irritant
Trimethoxyvinylsilane	Rabbit	Minimal irritation
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	Rabbit	No significant irritation
N-methyl-2-pyrrolidone	Rabbit	Minimal irritation
Phenol, styrenated	Rabbit	No significant irritation
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Ceramic materials and wares, chemicals	Rabbit	Mild irritant
Limestone	Rabbit	No significant irritation
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	Rabbit	Mild irritant
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	Rabbit	Mild irritant
Calcium carbonate	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	Rabbit	Mild irritant
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	Rabbit	Corrosive
Trimethoxyvinylsilane	Rabbit	No significant irritation
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	Rabbit	Mild irritant
N-methyl-2-pyrrolidone	Rabbit	Severe irritant
Phenol, styrenated	Rabbit	Mild irritant

Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Rabbit	Mild irritant

Skin Sensitisation

Name	Species	Value
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	Guinea pig	Not classified
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	Guinea pig	Not classified
Titanium dioxide	Human and animal	Not classified
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	Mouse	Not classified
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	Multiple animal species	Sensitising
Trimethoxyvinylsilane	Guinea pig	Some positive data exist, but the data are not sufficient for classification
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	Mouse	Sensitising
N-methyl-2-pyrrolidone	Human and animal	Not classified
Phenol, styrenated	Mouse	Sensitising
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	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
Ceramic materials and wares, chemicals	In Vitro	Some positive data exist, but the data are not sufficient for classification
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	In Vitro	Not mutagenic
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	In vivo	Not mutagenic
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	In Vitro	Not mutagenic
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	In vivo	Not mutagenic
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	In Vitro	Not mutagenic
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	In Vitro	Not mutagenic
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	In vivo	Not mutagenic
Trimethoxyvinylsilane	In vivo	Not mutagenic
Trimethoxyvinylsilane	In Vitro	Some positive data exist, but the data are not sufficient for classification
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	In Vitro	Not mutagenic
N-methyl-2-pyrrolidone	In vivo	Not mutagenic
N-methyl-2-pyrrolidone	In Vitro	Some positive data exist, but the data are not sufficient for classification
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	In vivo	Not mutagenic
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Ceramic materials and wares, chemicals	Inhalation	Multiple animal	Some positive data exist, but the data are not sufficient for classification

		species	
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	Not specified.	Not available	Not carcinogenic
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.
N-methyl-2-pyrrolidone	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Limestone	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	premating & during gestation
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	Ingestion	Not classified for female reproduction	Rat	NOAEL 927 mg/kg/day	2 generation
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	Ingestion	Not classified for male reproduction	Rat	NOAEL 929 mg/kg/day	2 generation
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	Ingestion	Toxic to development	Rat	NOAEL 38 mg/kg/day	2 generation
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	Not specified.	Not classified for female reproduction	Rat	NOAEL Not available	premating & during gestation
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	Not specified.	Not classified for male reproduction	Rat	NOAEL Not available	28 days
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	Not specified.	Not classified for development	Rat	NOAEL Not available	during gestation
Calcium carbonate	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	premating & during gestation
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	28 days
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 500 mg/kg/day	premating into lactation
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	Ingestion	Not classified for male reproduction	Rat	NOAEL 500 mg/kg/day	28 days
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	during gestation
Trimethoxyvinylsilane	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Trimethoxyvinylsilane	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Trimethoxyvinylsilane	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Trimethoxyvinylsilane	Inhalation	Not classified for development	Rat	NOAEL 1.8	during

				mg/l	organogenesis
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	Ingestion	Toxic to development	similar compounds	NOAEL not available	2 generation
N-methyl-2-pyrrolidone	Inhalation	Not classified for development	Rat	LOAEL 0.68 mg/l	during gestation
N-methyl-2-pyrrolidone	Ingestion	Toxic to female reproduction	Rat	LOAEL 50 mg/kg/day	2 generation
N-methyl-2-pyrrolidone	Ingestion	Toxic to male reproduction	Rat	LOAEL 50 mg/kg/day	2 generation
N-methyl-2-pyrrolidone	Dermal	Toxic to development	Rat	NOAEL 237 mg/kg/day	during organogenesis
N-methyl-2-pyrrolidone	Ingestion	Toxic to development	Rat	NOAEL 160 mg/kg/day	2 generation
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,493 mg/kg/day	29 days
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Ingestion	Not classified for development	Rat	NOAEL 209 mg/kg/day	premating into lactation
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Ingestion	Toxic to female reproduction	Rat	NOAEL 804 mg/kg/day	premating into lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Limestone	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes
Calcium carbonate	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
N-methyl-2-pyrrolidone	Inhalation	respiratory irritation	Not classified	Human	NOAEL 0.05 mg/l	8 hours

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Ceramic materials and wares, chemicals	Inhalation	pulmonary fibrosis	Not classified	Multiple animal species	NOAEL not available	
Ceramic materials and wares, chemicals	Inhalation	respiratory system	Not classified	Human	NOAEL not available	occupational exposure
Limestone	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	Inhalation	respiratory system | hematopoietic system | liver	Not classified	Rat	NOAEL 0.5 mg/l	2 weeks
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 0.5 mg/l	2 generation
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	Ingestion	endocrine system	Not classified	Rat	NOAEL 686 mg/kg/day	90 days
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	Ingestion	liver | kidney and/or bladder | heart	Not classified	Rat	NOAEL 500 mg/kg/day	90 days
1,2-Benzenedicarboxylic acid, di-C9-11-branched	Ingestion	hematopoietic system	Not classified	Dog	NOAEL 320 mg/kg/day	90 days

alkyl esters, C10-rich						
Calcium carbonate	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
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	Dermal	skin | endocrine system | hematopoietic system | kidney and/or bladder	Not classified	Rat	NOAEL 1,545 mg/kg/day	11 days
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	Inhalation	respiratory system	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 0.015 mg/l	90 days
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	Inhalation	hematopoietic system | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 0.044 mg/l	90 days
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	Ingestion	hematopoietic system | nervous system	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
Trimethoxyvinylsilane	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL mg/l	14 weeks
Trimethoxyvinylsilane	Inhalation	hematopoietic system | eyes	Not classified	Rat	NOAEL 2.4 mg/l	14 weeks
Trimethoxyvinylsilane	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 250 mg/kg/day	40 days
Trimethoxyvinylsilane	Ingestion	endocrine system | hematopoietic system | liver | immune system	Not classified	Rat	NOAEL 1,000 mg/kg/day	40 days
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	Ingestion	immune system	Causes damage to organs through prolonged or repeated exposure	similar compounds	NOAEL not available	
N-methyl-2-pyrrolidone	Inhalation	bone marrow | immune system | respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.5 mg/l	4 weeks
N-methyl-2-pyrrolidone	Ingestion	endocrine system	Not classified	Rat	NOAEL 250 mg/kg/day	90 days
N-methyl-2-pyrrolidone	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 2,060 mg/kg/day	4 weeks
N-methyl-2-pyrrolidone	Ingestion	nervous system	Not classified	Rat	NOAEL 1,057 mg/kg/day	90 days
N-methyl-2-pyrrolidone	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 300 mg/kg/day	90 days
N-methyl-2-pyrrolidone	Ingestion	liver	Not classified	Mouse	NOAEL 150 mg/kg/day	3 months
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Ingestion	eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 300 mg/kg/day	28 days
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Ingestion	gastrointestinal tract | liver | immune system | heart | endocrine system | hematopoietic system | nervous system | kidney and/or bladder	Not classified	Rat	NOAEL 1,493 mg/kg/day	29 days

Aspiration Hazard

Name	Value
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	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 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 #	Organism	Type	Exposure	Test endpoint	Test result
Limestone	1317-65-3	Green algae	Estimated	72 hours	EC50	>100 mg/l
Limestone	1317-65-3	Rainbow trout	Estimated	96 hours	LC50	>100 mg/l
Limestone	1317-65-3	Water flea	Estimated	48 hours	EC50	>100 mg/l
Limestone	1317-65-3	Green algae	Estimated	72 hours	EC10	>100 mg/l
Ceramic materials and wares, chemicals	66402-68-4	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
alpha-[3-(Dimethoxymethylsilyl) propyl]-omega-[3-(dimethoxymethylsilyl) propoxy]-poly[oxy(methyl-1,2-ethanediyl)]	75009-88-0	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha."-1,2,3-propanetriyltris[.omega.-[3-(dimethoxymethylsilyl) propoxy]-	151865-59-7	N/A	Data not available or insufficient for classification	N/A	N/A	NA
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	68515-49-1	Activated sludge	Experimental	30 minutes	EC50	>83.3 mg/l
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	68515-49-1	Green algae	Experimental	96 hours	EC50	>100 mg/l
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	68515-49-1	Rainbow trout	Experimental	96 hours	LC50	>100 mg/l

1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	68515-49-1	Water flea	Experimental	48 hours	EC50	>100 mg/l
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	68515-49-1	Green algae	Experimental	96 hours	NOEC	100 mg/l
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	68515-49-1	Water flea	Experimental	21 days	NOEC	100 mg/l
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	918-167-1	Green algae	Estimated	72 hours	EL50	>1,000 mg/l
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	918-167-1	Rainbow trout	Estimated	96 hours	LL50	>1,000 mg/l
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	918-167-1	Water flea	Estimated	48 hours	EL50	>1,000 mg/l
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	918-167-1	Green algae	Estimated	72 hours	NOEL	1,000 mg/l
Calcium carbonate	471-34-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
Calcium carbonate	471-34-1	Rainbow trout	Experimental	96 hours	LC50	>100 mg/l
Calcium carbonate	471-34-1	Water flea	Experimental	48 hours	EC50	>100 mg/l
Calcium carbonate	471-34-1	Green algae	Experimental	72 hours	EC10	100 mg/l
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	484-050-2	Water flea	Endpoint not reached	48 hours	EC50	>100 mg/l
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	484-050-2	Activated sludge	Experimental	3 hours	EC50	>100 mg/l
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	484-050-2	Common Carp	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l

Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	484-050-2	Green algae	Experimental	72 hours	EC50	0.025 mg/l
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	484-050-2	Water flea	Endpoint not reached	21 days	NOEC	>100 mg/l
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	484-050-2	Green algae	Experimental	72 hours	NOEC	0.007 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
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	1760-24-3	Bacteria	Experimental	16 hours	EC50	67 mg/l
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	1760-24-3	Fathead minnow	Experimental	96 hours	LC50	168 mg/l
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	1760-24-3	Green algae	Experimental	72 hours	ErC50	8.8 mg/l
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	1760-24-3	Water flea	Experimental	48 hours	EC50	81 mg/l
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	1760-24-3	Green algae	Experimental	72 hours	NOEC	3.1 mg/l
Trimethoxyvinylsilane	2768-02-7	Bacteria	Experimental	5 hours	EC10	1.1 mg/l
Trimethoxyvinylsilane	2768-02-7	Green algae	Experimental	72 hours	EC50	>957 mg/l
Trimethoxyvinylsilane	2768-02-7	Rainbow trout	Experimental	96 hours	LC50	191 mg/l
Trimethoxyvinylsilane	2768-02-7	Water flea	Experimental	48 hours	EC50	169 mg/l
Trimethoxyvinylsilane	2768-02-7	Green algae	Experimental	72 hours	NOEC	957 mg/l

Trimethoxyvinylsilane	2768-02-7	Water flea	Experimental	21 days	NOEC	28 mg/l
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	54068-28-9	Water flea	Estimated	24 hours	EC50	1.3 mg/l
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	54068-28-9	Water flea	Estimated	21 days	NOEC	0.52 mg/l
N-methyl-2-pyrrolidone	872-50-4	Grass Shrimp	Experimental	96 hours	EC50	1,107 mg/l
N-methyl-2-pyrrolidone	872-50-4	Green algae	Experimental	72 hours	EC50	600.5 mg/l
N-methyl-2-pyrrolidone	872-50-4	Rainbow trout	Experimental	96 hours	LC50	>500 mg/l
N-methyl-2-pyrrolidone	872-50-4	Water flea	Experimental	48 hours	EC50	4,897 mg/l
N-methyl-2-pyrrolidone	872-50-4	Green algae	Experimental	72 hours	EC10	92.6 mg/l
N-methyl-2-pyrrolidone	872-50-4	Water flea	Experimental	21 days	NOEC	12.5 mg/l
Phenol, styrenated	61788-44-1	Activated sludge	Experimental	3 hours	EC50	362 mg/l
Phenol, styrenated	61788-44-1	Green algae	Experimental	72 hours	EC50	1.35 mg/l
Phenol, styrenated	61788-44-1	Medaka	Experimental	96 hours	LC50	5.6 mg/l
Phenol, styrenated	61788-44-1	Water flea	Experimental	48 hours	EC50	4.6 mg/l
Phenol, styrenated	61788-44-1	Green algae	Experimental	72 hours	NOEC	0.42 mg/l
Phenol, styrenated	61788-44-1	Water flea	Experimental	21 days	NOEC	0.2 mg/l
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Activated sludge	Experimental	3 hours	IC50	>=100 mg/l
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Green algae	Experimental	72 hours	ErC50	1.68 mg/l
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Zebra Fish	Experimental	96 hours	LC50	0.9 mg/l
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Green algae	Experimental	72 hours	NOEC	0.22 mg/l
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Water flea	Experimental	21 days	NOEC	1 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Limestone	1317-65-3	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Ceramic materials and wares, chemicals	66402-68-4	Data not availbl-insufficient	N/A	N/A	N/A	N/A
alpha-[3-(Dimethoxymethylsilyl)propyl]-omega-[3-(dimethoxymethylsilyl)propoxy]-poly[oxy(methyl-1,2-ethanediyl)]	75009-88-0	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.', .alpha."-1,2,3-propanetriyltris[. omega.-[3-(dimethoxymethylsilyl)propoxy]-	151865-59-7	Data not availbl-insufficient	N/A	N/A	N/A	N/A
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	68515-49-1	Experimental Biodegradation	28 days	BOD	74 %BOD/ThOD	OECD 301F - Manometric respirometry
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	918-167-1	Estimated Biodegradation	28 days	BOD	31.3 %BOD/ThOD	
Calcium carbonate	471-34-1	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	484-050-2	Experimental Biodegradation	28 days	CO2 evolution	7 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Titanium dioxide	13463-67-7	Data not availbl-insufficient	N/A	N/A	N/A	N/A
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	1760-24-3	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	39 %removal of DOC	EC C.4.A. DOC Die-Away Test
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	1760-24-3	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	1.5 minutes (t 1/2)	
Trimethoxyvinylsilane	2768-02-7	Experimental Biodegradation	28 days	BOD	51 %BOD/ThOD	OECD 301F - Manometric respirometry
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	54068-28-9	Data not availbl-insufficient	N/A	N/A	N/A	N/A
N-methyl-2-pyrrolidone	872-50-4	Experimental Biodegradation	28 days	BOD	73 %BOD/ThOD	OECD 301C - MITI test (I)
Phenol, styrenated	61788-44-1	Experimental Biodegradation	28 days	BOD	7 %BOD/ThOD	OECD 301F - Manometric respirometry
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	38 %removal of DOC	OECD 301E - Modif. OECD Screen

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Limestone	1317-65-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Ceramic materials and wares, chemicals	66402-68-4	Data not available or insufficient for	N/A	N/A	N/A	N/A

		classification				
alpha-[3-(Dimethoxymethylsilyl)propyl]-omega-[3-(dimethoxymethylsilyl)propoxy]-poly[oxy(methyl-1,2-ethanediyl)]	75009-88-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha."-1,2,3-propanetriyltris[. omega.-[3-(dimethoxymethylsilyl)propoxy]-	151865-59-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	68515-49-1	Estimated BCF - Fish	56 days	Bioaccumulation factor	<14.4	OECD305-Bioconcentration
Hydrocarbons, C11-C12, isoalkanes, <2% aromatics	918-167-1	Estimated BCF - Fish		Bioaccumulation factor	2500	
Calcium carbonate	471-34-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	484-050-2	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	
N-(3-(Trimethoxysilyl)propyl)ethylenediamine	1760-24-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Trimethoxyvinylsilane	2768-02-7	Estimated Bioconcentration		Log Kow	-2	
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	54068-28-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
N-methyl-2-pyrrolidone	872-50-4	Experimental Bioconcentration		Log Kow	-0.46	
Phenol, styrenated	61788-44-1	Experimental BCF - Fish	10 days	Bioaccumulation factor	10395	
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Analogous Compound BCF - Fish	56 days	Bioaccumulation factor	31.4	

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
Reaction mass of 12-hydroxy-N-[2-[(1-oxodecyl)amino]alkyl]octadecanamide, 12-hydroxy-N-[2-[(1-oxooctyl)amino]alkyl]octadecanamide and N,N'-1,2-alkandiylbis[12-hydroxyoctadecanamide]	484-050-2	Experimental Mobility in Soil	Koc	>430000 l/kg	OECD 121 Estim. of Koc by HPLC
Trimethoxyvinylsilane	2768-02-7	Estimated Mobility in Soil	Koc	650 l/kg	Episuite™
Phenol, styrenated	61788-44-1	Estimated	Koc	≥20000 l/kg	Episuite™

		Mobility in Soil			
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Modeled Mobility in Soil	Koc	200,000 l/kg	Episuite™

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. Endocrine disrupting properties

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

12.7. Other adverse effects
No information available.

SECTION 13: Disposal considerations

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

Incinerate uncured product in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. If no other disposal options are available, waste product that has been completely cured or polymerised may be placed in a landfill properly designed for industrial waste. 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
20 01 27*	Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number or ID number	UN1133	UN1133	UN1133
14.2 UN proper shipping name	ADHESIVES	ADHESIVES	ADHESIVES
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 Marine Transport in bulk according to IMO instruments	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
Titanium dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Restrictions on the manufacture, placing on the market and use:
The following substance(s) contained in this product is/are subject through Annex XVII of REACH regulation to restrictions on the manufacture, placing on the market and use when present in certain dangerous substances, mixtures and articles. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

Ingredient	CAS Nbr
N-methyl-2-pyrrolidone	872-50-4
1,2-Benzenedicarboxylic acid, di-C9-11-branched alkyl esters, C10-rich	68515-49-1

Restriction status: listed in REACH Annex XVII
Restricted uses: See Annex XVII to Regulation (EC) No 1907/2006 for Conditions of Restriction

Authorization status under REACH:
The following substance/s contained in this product might be or is/are subject to authorization in accordance with REACH:

Ingredient	CAS Nbr
N-methyl-2-pyrrolidone	872-50-4

Authorization status: listed in the Candidate List of Substances of Very High Concern for Authorization

Global inventory status
Contact 3M for more information.

DIRECTIVE 2012/18/EU
Seveso hazard categories, Annex 1, Part 1
None

Seveso named dangerous substances, Annex 1, Part 2
None

Regulation (EU) No 649/2012

Chemical	Identifier(s)	Annex I
Tin, dioctylbis(2,4-pentanedionato-κO2,κO4)-	54068-28-9	Part 1

15.2. Chemical Safety Assessment
A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information

List of relevant H statements

EUH066	Repeated exposure may cause skin dryness or cracking.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
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.
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.
H361f	Suspected of damaging fertility.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Revision information:
Section 3: Composition/ Information of ingredients table information was modified.
Section 4: First aid for eye contact information information was modified.
Section 9: Vapour density value information was modified.
Section 11: Acute Toxicity 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: 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 Marine transport in bulk according to IMO instruments – Main Heading information was modified.
Section 14 UN Number 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.

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