Safety Data Sheet

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Transportation version number: 1.00 (08/01/2013)

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

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

1.1. Product identifier
3M™ ESPE™ Impregum™ Penta™ Soft Base Paste

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

Identified uses
Dental Product

1.3. Details of the supplier of the substance or mixture

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.

E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

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

SECTION 2: Hazard identification

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

CLASSIFICATION:
This material is exempt from hazard classification according to Regulation (EC) No. 1272/2008, as amended, on classification, labelling, and packaging of substances and mixtures.

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

This product is not classified as hazardous according to EU Directive 1999/45/EC.

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

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

Symbol(s)

None.

Contains:

No ingredients are assigned to the label.

Risk phrases None.
Safety phrases None.

Special provisions concerning the labelling of certain substances
Contains 1-Dodecylimidazole May produce an allergic reaction.
Safety data sheet available for professional user on request.

Notes on labelling
This product is exempt from labelling per Directive 1999/45/EC as it is defined as a medical device according to Directive 93/42/EEC and is invasive or comes into contact with the human body.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Polyether	110531-92-5		50 - 60	
DIATOMACEOUS EARTH	67701-27-3	EINECS 266-945-8	15 - 25	
Polymeric acetate	91825-26-2		10 - 20	
Dibenzyltoluene	26898-17-9	EINECS 248-097-0	5 - 15	R53 (Vendor) Aquatic Chronic 4, H413 (Self Classified)
Diatomaceous earth	68855-54-9	EINECS 272-489-0	1 - 5	
Cristobalite	14464-46-1	EINECS 238-455-4	1 - 5	Xn:R48/20 (Vendor) STOT RE 2, H373 (Vendor)
1-dodecyl-1H-imidazole	4303-67-7	EINECS 224-314-4	< 1	Xn:R22; R43 (Self Classified) Acute Tox. 4, H302; Eye Irrit. 2, H319; Skin Sens. 1A, H317 (Self Classified)

Please see section 16 for the full text of any R phrases and H statements referred to in this section
Please refer to section 15 for the any applicable Notas that have been applied to the above components

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

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

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

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

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

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

SECTION 5: Fire-fighting measures

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

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

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Irritant vapours or gases.	During combustion.

5.3. Advice for fire-fighters
No unusual fire or explosion hazards are anticipated.

SECTION 6: Accidental release measures

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

6.2. Environmental precautions
Avoid release to the environment.

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

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid breathing dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage including any incompatibilities
Protect from sunlight. Store away from heat.

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

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Silica, crystalline (airborne particles of respirable size)	14464-46-1	Health and Safety Comm. (UK)	TWA(respirable):0.1 mg/m3	
Silica, amorphous	68855-54-9	Health and Safety Comm. (UK)	TWA(as inhalable dust):6 mg/m3;TWA(as respirable dust):2.4 mg/m3	

Health and Safety Comm. (UK) : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
ppm: parts per million
mg/m³: milligrams per cubic metre
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Not applicable.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

Skin/hand protection

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Respiratory protection

Respiratory protection is not required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Paste
Appearance/Odour	Different colours, characteristic odour
pH	*No data available.*
Boiling point/boiling range	*Not applicable.*
Melting point	*No data available.*
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	No flash point
Autoignition temperature	*No data available.*
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*Not applicable.*
Relative density	1.0 - 1.2 [*Ref Std:* WATER=1]
Water solubility	Nil
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*Not applicable.*
Vapour density	*Not applicable.*
Viscosity	40 - 150 Pa-s

9.2. Other information

Volatile organic compounds (VOC)	*Not applicable.*
Percent volatile	*Not applicable.*
VOC less H2O & exempt solvents	*Not applicable.*

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
Heat.

10.5 Incompatible materials
None known.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

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

Skin contact
Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

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

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

Toxicological Data

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No test data available; calculated ATE >5,000 mg/kg
Polyether	Ingestion	Rat	LD50 > 2,000 mg/kg
DIATOMACEOUS EARTH			No data available
Polymeric acetate	Ingestion	Rat	LD50 > 2,000 mg/kg
Dibenzyltoluene			No data available
Cristobalite	Ingestion		LD50 estimated to be > 5,000 mg/kg
Diatomaceous earth	Dermal	Rabbit	LD50 > 5,000 mg/kg
Diatomaceous earth	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Diatomaceous earth	Ingestion	Rat	LD50 > 5,110 mg/kg
1-dodecyl-1H-imidazole	Ingestion	Rat	LD50 641 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Polyether		No data available
DIATOMACEOUS EARTH		No data available
Polymeric acetate		No data available
Dibenzyltoluene		No data available
Cristobalite		No data available
Diatomaceous earth	Rabbit	No significant irritation
1-dodecyl-1H-imidazole	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Polyether		No data available
DIATOMACEOUS EARTH		No data available
Polymeric acetate		No data available

Dibenzyltoluene		No data available
Cristobalite		No data available
Diatomaceous earth	Rabbit	No significant irritation
1-dodecyl-1H-imidazole	similar compounds	Moderate irritant

Skin Sensitisation

Name	Species	Value
Polyether	Guinea pig	Not sensitizing
DIATOMACEOUS EARTH		No data available
Polymeric acetate		No data available
Dibenzyltoluene		No data available
Cristobalite		No data available
Diatomaceous earth	Human and animal	Not sensitizing
1-dodecyl-1H-imidazole		Sensitising

Respiratory Sensitisation

Name	Species	Value
Polyether		No data available
DIATOMACEOUS EARTH		No data available
Polymeric acetate		No data available
Dibenzyltoluene		No data available
Cristobalite		No data available
Diatomaceous earth		No data available
1-dodecyl-1H-imidazole		No data available

Germ Cell Mutagenicity

Name	Route	Value
Polyether	In Vitro	Not mutagenic
DIATOMACEOUS EARTH		No data available
Polymeric acetate	In Vitro	Not mutagenic
Dibenzyltoluene		No data available
Cristobalite		No data available
Diatomaceous earth	In Vitro	Not mutagenic
1-dodecyl-1H-imidazole	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Polyether			No data available
DIATOMACEOUS EARTH			No data available
Polymeric acetate			No data available
Dibenzyltoluene			No data available
Cristobalite			No data available
Diatomaceous earth	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
1-dodecyl-1H-imidazole			No data available

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Polyether		No data available			
DIATOMACEOUS EARTH		No data available			
Polymeric acetate		No data available			
Dibenzyltoluene		No data available			
Cristobalite		No data available			
Diatomaceous earth	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation

Diatomaceous earth	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Diatomaceous earth	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
1-dodecyl-1H-imidazole		No data available			

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Polyether			No data available			
DIATOMACEOUS EARTH			No data available			
Polymeric acetate			No data available			
Dibenzyltoluene			No data available			
Cristobalite			No data available			
Diatomaceous earth			No data available			
1-dodecyl-1H-imidazole			No data available			

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Polyether			No data available			
DIATOMACEOUS EARTH			No data available			
Polymeric acetate			No data available			
Dibenzyltoluene			No data available			
Cristobalite			No data available			
Diatomaceous earth	Inhalation	respiratory system | silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
1-dodecyl-1H-imidazole			No data available			

Aspiration Hazard

Name	Value
Polyether	Not an aspiration hazard
DIATOMACEOUS EARTH	Not an aspiration hazard
Polymeric acetate	Not an aspiration hazard
Dibenzyltoluene	Not an aspiration hazard
Cristobalite	Not an aspiration hazard
Diatomaceous earth	Not an aspiration hazard
1-dodecyl-1H-imidazole	Not an 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.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Dibenzyltoluene	26898-17-9	Water flea	Experimental	48 hours	EC50	>100 mg/l
Dibenzyltoluene	26898-17-9	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Dibenzyltoluene	26898-17-9	Diatom	Experimental	72 hours	EC50	>100 mg/l
1-dodecyl-1H-imidazole	4303-67-7		No data available.			
Polyether	110531-92-5		No data available.			
Cristobalite	14464-46-1		No data available.			
Diatomaceous earth	68855-54-9		No data available.			
DIATOMACEOUS EARTH	67701-27-3		No data available.			
Polymeric acetate	91825-26-2		No data available.			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Cristobalite	14464-46-1	No data available.	N/A	N/A	N/A	N/A
Polymeric acetate	91825-26-2	No data available.	N/A	N/A	N/A	N/A
Polyether	110531-92-5	No data available.	N/A	N/A	N/A	N/A
Diatomaceous earth	68855-54-9	No data available.	N/A	N/A	N/A	N/A
Dibenzyltoluene	26898-17-9	Laboratory Biodegradation	28 days	BOD	0 % weight	OECD 301C - MITI test (I)
1-dodecyl-1H-imidazole	4303-67-7	Modeled Biodegradation	28 days	CO2 evolution	56.1 % weight	OECD 301B - Modified sturm or CO2
1-dodecyl-1H-imidazole	4303-67-7	Modeled Photolysis		Photolytic half-life (in air)	7.52 hours (t 1/2)	Other methods
Dibenzyltoluen	26898-17-9	Modeled		Photolytic half-	4.7 hours (t	Other methods

e		Photolysis		life (in air)	1/2)	
DIATOMACEOUS EARTH	67701-27-3	No data available.	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Polymeric acetate	91825-26-2	No data available.	N/A	N/A	N/A	N/A
Dibenzyltoluene	26898-17-9	Experimental BCF-Carp	60 days	Bioaccumulation factor	23000	Other methods
1-dodecyl-1H-imidazole	4303-67-7	Modeled Bioconcentration		Bioaccumulation factor	3799	Other methods
Diatomaceous earth	68855-54-9	No data available.	N/A	N/A	N/A	N/A
Cristobalite	14464-46-1	No data available.	N/A	N/A	N/A	N/A
DIATOMACEOUS EARTH	67701-27-3	No data available.	N/A	N/A	N/A	N/A
Polyether	110531-92-5	No data available.	N/A	N/A	N/A	N/A

12.4. Mobility in soil
Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

Ingredient	CAS Nbr	PBT/vPvB status
Dibenzyltoluene	26898-17-9	Meets REACH PBT criteria

12.6. 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. Dispose of completely cured (or polymerised) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. 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)

180106* Chemicals consisting of or containing dangerous substances.

SECTION 14: Transportation information

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
Cristobalite	14464-46-1	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer

Global inventory status
Contact 3M for more information.

15.2. Chemical Safety Assessment
Not applicable

SECTION 16: Other information

List of relevant H statements

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.
H413	May cause long lasting harmful effects to aquatic life.

List of relevant R-phrases

R22	Harmful if swallowed.
R43	May cause sensitisation by skin contact.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R53	May cause long-term adverse effects in the aquatic environment.

Revision information:
No revision information is available.

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

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

Safety Data Sheet

Document group:	16-2742-1	**Version number:**	8.00
Revision date:	08/01/2013	**Supersedes date:**	05/08/2009

Transportation version number: 1.00 (08/01/2013)

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

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

1.1. Product identifier
3M™ ESPE™ Impregum™ Penta™ Soft HB Catalyst

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

Identified uses
Dental Product

1.3. Details of the supplier of the substance or mixture

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.

E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

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

SECTION 2: Hazard identification

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

CLASSIFICATION:
This material is exempt from hazard classification according to Regulation (EC) No. 1272/2008, as amended, on classification, labelling, and packaging of substances and mixtures.

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

This product is not classified as hazardous according to EU Directive 1999/45/EC.

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

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

Symbol(s)

None.

Contains:

No ingredients are assigned to the label.

Risk phrases None.
Safety phrases None.

Notes on labelling
This product is exempt from labelling per Directive 1999/45/EC as it is defined as a medical device according to Directive 93/42/EEC and is invasive or comes into contact with the human body.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Tributyl o-acetylcitrate	77-90-7	EINECS 201-067-0	35 - 45	
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	68909-20-6	EINECS 272-697-1	20 - 30	
Sulphonium salt	72140-65-9	EINECS 276-380-9	15 - 25	
Kieselguhr, soda ash flux-calcined	68855-54-9	EINECS 272-489-0	1 - 10	
Cristobalite	14464-46-1	EINECS 238-455-4	1 - 10	Xn:R48/20 (Vendor) STOT RE 2, H373 (Vendor)
Polyethylene-polypropylene glycol	9003-11-6		1 - 5	

Please see section 16 for the full text of any R phrases and H statements referred to in this section
Please refer to section 15 for the any applicable Notas that have been applied to the above components

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

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

Skin contact
Wash with soap and water. If signs/symptoms develop, get medical attention.

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

If swallowed

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

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

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

SECTION 5: Fire-fighting measures

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

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

Hazardous Decomposition or By-Products

Substance	Condition
Irritant vapours or gases.	During combustion.

5.3. Advice for fire-fighters
No unusual fire or explosion hazards are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, in accordance with good industrial hygiene practice. Warning: A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. Observe precautions from other sections.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue 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
Avoid breathing dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Store away from heat.

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

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Silica, crystalline (airborne particles of respirable size)	14464-46-1	Health and Safety Comm. (UK)	TWA(respirable):0.1 mg/m3	
Silica, amorphous	68855-54-9	Health and Safety Comm. (UK)	TWA(as inhalable dust):6 mg/m3;TWA(as respirable dust):2.4 mg/m3	

Health and Safety Comm. (UK) : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
ppm: parts per million
mg/m³: milligrams per cubic metre
CEIL: Ceiling

8.2. Exposure controls

8.2.1. 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

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

Skin/hand protection

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Respiratory protection

Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Paste
Appearance/Odour	Dark red colour, slightly acrid odour
pH	*No data available.*
Boiling point/boiling range	*Not applicable.*
Melting point	*No data available.*
Flammability (solid, gas)	Not classified
Explosive properties	Not classified

Oxidising properties	Not classified
Flash point	No flash point
Autoignition temperature	*No data available.*
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*Not applicable.*
Relative density	1.1 - 1.4 [*Ref Std:* WATER=1]
Water solubility	Nil
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*Not applicable.*
Vapour density	*Not applicable.*
Viscosity	*No data available.*

9.2. Other information

Volatile organic compounds (VOC)	*Not applicable.*
Percent volatile	*Not applicable.*
VOC less H2O & exempt solvents	*Not applicable.*

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
Heat.

10.5 Incompatible materials
None known.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

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

Skin contact
May be harmful in contact with skin.
Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

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

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

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

Toxicological Data

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No test data available; calculated ATE4,043.9 mg/kg
Overall product	Ingestion		No test data available; calculated ATE >5,000 mg/kg
Tributyl o-acetylcitrate			No data available
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Sulphonium salt	Ingestion	Rat	LD50 > 2,000 mg/kg
Cristobalite	Ingestion		LD50 estimated to be > 5,000 mg/kg
Kieselguhr, soda ash flux-calcined	Dermal	Rabbit	LD50 > 5,000 mg/kg
Kieselguhr, soda ash flux-calcined	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Kieselguhr, soda ash flux-calcined	Ingestion	Rat	LD50 > 5,110 mg/kg
Polyethylene-polypropylene glycol	Ingestion	Rat	LD50 5,700 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Tributyl o-acetylcitrate		No data available
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Rabbit	No significant irritation
Sulphonium salt		Mild irritant
Cristobalite		No data available
Kieselguhr, soda ash flux-calcined	Rabbit	No significant irritation
Polyethylene-polypropylene glycol		No data available

Serious Eye Damage/Irritation

Name	Species	Value
Tributyl o-acetylcitrate		No data available
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Rabbit	No significant irritation
Sulphonium salt		Moderate irritant
Cristobalite		No data available
Kieselguhr, soda ash flux-calcined	Rabbit	No significant irritation
Polyethylene-polypropylene glycol		No data available

Skin Sensitisation

Name	Species	Value
Tributyl o-acetylcitrate		No data available
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Human and animal	Not sensitizing
Sulphonium salt		No data available
Cristobalite		No data available
Kieselguhr, soda ash flux-calcined	Human and animal	Not sensitizing
Polyethylene-polypropylene glycol		No data available

Respiratory Sensitisation

Name	Species	Value
Tributyl o-acetylcitrate		No data available
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica		No data available
Sulphonium salt		No data available
Cristobalite		No data available
Kieselguhr, soda ash flux-calcined		No data available
Polyethylene-polypropylene glycol		No data available

Germ Cell Mutagenicity

Name	Route	Value
Tributyl o-acetylcitrate		No data available
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	In Vitro	Not mutagenic
Sulphonium salt	In Vitro	Not mutagenic
Cristobalite		No data available
Kieselguhr, soda ash flux-calcined	In Vitro	Not mutagenic
Polyethylene-polypropylene glycol		No data available

Carcinogenicity

Name	Route	Species	Value
Tributyl o-acetylcitrate			No data available
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Sulphonium salt			No data available
Cristobalite			No data available
Kieselguhr, soda ash flux-calcined	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Polyethylene-polypropylene glycol			No data available

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Tributyl o-acetylcitrate		No data available			

Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Sulphonium salt		No data available			
Cristobalite		No data available			
Kieselguhr, soda ash flux-calcined	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Kieselguhr, soda ash flux-calcined	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Kieselguhr, soda ash flux-calcined	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Polyethylene-polypropylene glycol		No data available			

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Tributyl o-acetylcitrate			No data available			
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica			No data available			
Sulphonium salt	Ingestion	central nervous system depression	May cause drowsiness or dizziness		LOAEL 2,000 mg/kg	
Cristobalite			No data available			
Kieselguhr, soda ash flux-calcined			No data available			
Polyethylene-polypropylene glycol			No data available			

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Tributyl o-acetylcitrate			No data available			
Silanamine, 1,1,1-trimethyl-N-	Inhalation	respiratory system | silicosis	All data are negative	Human	NOAEL Not available	occupational exposure

(trimethylsilyl)-, hydrolysis products with silica						
Sulphonium salt			No data available			
Cristobalite			No data available			
Kieselguhr, soda ash flux-calcined	Inhalation	respiratory system | silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
Polyethylene-polypropylene glycol			No data available			

Aspiration Hazard

Name	Value
Tributyl o-acetylcitrate	Not an aspiration hazard
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Not an aspiration hazard
Sulphonium salt	Not an aspiration hazard
Cristobalite	Not an aspiration hazard
Kieselguhr, soda ash flux-calcined	Not an aspiration hazard
Polyethylene-polypropylene glycol	Not an 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.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
GHS Acute 2: Toxic to aquatic life with long lasting effects.

Chronic aquatic hazard:
GHS Chronic 2: Toxic to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Polyethylene-polypropylene glycol	9003-11-6	Atlantic Salmon	Experimental	96 hours	LC50	>1,000 mg/l
Polyethylene-polypropylene glycol	9003-11-6	Inland Silverside	Experimental	96 hours	LC50	650 mg/l
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis	68909-20-6	Algae	Estimated	72 hours	EC50	>100 mg/l

products with silica						
Cristobalite	14464-46-1		No data available.			
Kieselguhr, soda ash flux-calcined	68855-54-9		No data available.			
Tributyl o-acetylcitrate	77-90-7	Water flea	Experimental	48 hours	EC50	7.82 mg/l
Sulphonium salt	72140-65-9		No data available.			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Tributyl o-acetylcitrate	77-90-7	Estimated Photolysis		Photolytic half-life (in air)	2.1 days (t 1/2)	Other methods
Sulphonium salt	72140-65-9	No data available.	N/A	N/A	N/A	N/A
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl) -, hydrolysis products with silica	68909-20-6	No data available.	N/A	N/A	N/A	N/A
Kieselguhr, soda ash flux-calcined	68855-54-9	No data available.	N/A	N/A	N/A	N/A
Polyethylene-polypropylene glycol	9003-11-6	No data available.	N/A	N/A	N/A	N/A
Cristobalite	14464-46-1	No data available.	N/A	N/A	N/A	N/A
Tributyl o-acetylcitrate	77-90-7	Experimental Biodegradation	28 days	BOD	48 % weight	Other methods

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Sulphonium salt	72140-65-9	No data available.	N/A	N/A	N/A	N/A
Kieselguhr, soda ash flux-calcined	68855-54-9	No data available.	N/A	N/A	N/A	N/A
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl) -, hydrolysis products with silica	68909-20-6	No data available.	N/A	N/A	N/A	N/A
Cristobalite	14464-46-1	No data available.	N/A	N/A	N/A	N/A
Polyethylene-	9003-11-6	No data	N/A	N/A	N/A	N/A

polypropylene glycol		available.				
Tributyl o-acetylcitrate	77-90-7	Estimated Bioconcentration		Bioaccumulation factor	5.1	Estimated: Bioconcentration factor

12.4. Mobility in soil
Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

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

12.6. Other adverse effects
No information available.

SECTION 13: Disposal considerations

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

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. 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)
180106* Chemicals consisting of or containing dangerous substances.

SECTION 14: Transportation information

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
Cristobalite	14464-46-1	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer

Global inventory status
Contact 3M for more information.

15.2. Chemical Safety Assessment
Not applicable

SECTION 16: Other information

List of relevant H statements

H373	May cause damage to organs through prolonged or repeated exposure.

List of relevant R-phrases

R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Revision information:
No revision information is available.

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