



Safety Data Sheet

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Document Group:	31-6693-1	Version Number:	1.02
Issue Date:	04/15/15	Supersedes Date:	05/20/14

Product identifier

3M™ ESPE™ IMPRINT™ 4 HEAVY REFILL

ID Number(s):

70-2011-4147-3

Recommended use

Dental Product, Impression Material

Restrictions on use

For use only by dental professionals.

Supplier's details

MANUFACTURER:	3M
DIVISION:	3M ESPE Dental Products
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:

31-4841-8, 31-4838-4

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Document Group:	31-4841-8	Version Number:	3.00
Issue Date:	02/25/16	Supersedes Date:	10/09/14

SECTION 1: Identification

1.1. Product identifier

3M™ ESPE™ IMPRINT™ 4 HEAVY CATALYST

Product Identification Numbers

LE-F100-1307-3

1.2. Recommended use and restrictions on use

Recommended use

Dental Product, Impression Material

Restrictions on use

For use only by dental professionals

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Oral Care Solutions Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

2.1. Hazard classification

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

2.2. Label elements

Signal word

Not applicable.

Symbols

Not applicable.

Pictograms

Not applicable.

2.3. Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
CRISTOBALITE	14464-46-1	30 - 40 Trade Secret *
VINYL-POLYDIMETHYLSILOXANE	68083-19-2	30 - 40 Trade Secret *
FUSED SILICA	60676-86-0	10 - 20 Trade Secret *
POLY(DIMETHYLSILOXANE)	63148-62-9	1 - 10 Trade Secret *
SILANE TREATED SILICA	67762-90-7	1 - 10 Trade Secret *
TRIDYMITE	15468-32-3	1 - 10 Trade Secret *
QUARTZ SILICA	14808-60-7	< 0.3 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

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:

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

Eye Contact:

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

If Swallowed:

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

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

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Condition

Carbon monoxide
 Carbon dioxide
 Irritant Vapors or Gases

During Combustion
 During Combustion
 During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ventilate the area with fresh air. 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. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid prolonged or repeated skin contact. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidizing agents. Store away from amines.

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	C.A.S. No.	Agency	Limit type	Additional Comments
CRISTOBALITE	14464-46-1	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
CRISTOBALITE	14464-46-1	OSHA	TWA concentration(as total dust):0.15 mg/m3;TWA concentration(respirable):0.05 mg/m3(1.2 millions of particles/cu. ft.)	
QUARTZ SILICA	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
QUARTZ SILICA	14808-60-7	OSHA	TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.)	
TRIDYMITE	15468-32-3	OSHA	TWA concentration(as total dust):0.15 mg/m3;TWA	

			concentration(respirable):0.05 mg/m3(1.2 millions of particles/cu. ft.)	
SILICA, AMORPHOUS	60676-86-0	OSHA	TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft.	
SILANE TREATED SILICA	67762-90-7	CMRG	CEIL:5 mg/m3	
SILICA, AMORPHOUS	67762-90-7	OSHA	TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft.	

ACGIH : American Conference of Governmental Industrial Hygienists
 AIHA : American Industrial Hygiene Association
 CMRG : Chemical Manufacturer's Recommended Guidelines
 OSHA : United States Department of Labor - Occupational Safety and Health Administration
 TWA: Time-Weighted-Average
 STEL: Short Term Exposure Limit
 CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

Respiratory protection is not required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Solid
Specific Physical Form:	Paste
Odor, Color, Grade:	slight characteristic odor, blue colored paste
Odor threshold	<i>No Data Available</i>
pH	<i>No Data Available</i>
Melting point	<i>Not Applicable</i>
Boiling Point	<i>Not Applicable</i>
Flash Point	Flash point > 93 °C (200 °F)
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapor Pressure	<i>No Data Available</i>
Vapor Density	<i>No Data Available</i>
Density	1.4 g/cm3 - 1.6 g/cm3

Specific Gravity	1.4 - 1.6 [Ref Std: WATER=1]
Solubility in Water	Negligible
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	Not Applicable
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	No Data Available
Volatile Organic Compounds	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 polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Amines
Strong acids
Strong bases
Strong oxidizing agents

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

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 labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

The information below represents toxicological information associated with the individual components of the uncured product. Once properly mixed and/or cured, the product is safe for its intended use.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation:

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

Skin Contact:

Contact with the skin during product use is not expected to result in significant irritation.

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 diarrhea.

Additional Health Effects:

Carcinogenicity:

Exposures needed to cause the following health effect(s) are not expected during normal, intended use:

Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
SILICA, CRYSTALLINE	14464-46-1	Known human carcinogen	National Toxicology Program Carcinogens
SILICA, CRYSTALLINE	14808-60-7	Known human carcinogen	National Toxicology Program Carcinogens
SILICA, CRYSTALLINE	15468-32-3	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
SILICA, CRYSTALLINE	15468-32-3	Known human carcinogen	National Toxicology Program Carcinogens
CRISTOBALITE	14464-46-1	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
QUARTZ SILICA	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on 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	Ingestion		No data available; calculated ATE > 5,000 mg/kg
VINYL-POLYDIMETHYLSILOXANE	Dermal	Rabbit	LD50 > 15,440 mg/kg
VINYL-POLYDIMETHYLSILOXANE	Ingestion	Rat	LD50 > 15,440 mg/kg
CRISTOBALITE	Dermal		LD50 estimated to be > 5,000 mg/kg
CRISTOBALITE	Ingestion		LD50 estimated to be > 5,000 mg/kg
FUSED SILICA	Dermal	Rabbit	LD50 > 5,000 mg/kg
FUSED SILICA	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
FUSED SILICA	Ingestion	Rat	LD50 > 5,110 mg/kg
SILANE TREATED SILICA	Dermal	Rabbit	LD50 > 5,000 mg/kg
SILANE TREATED SILICA	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
SILANE TREATED SILICA	Ingestion	Rat	LD50 > 5,110 mg/kg
POLY(DIMETHYLSILOXANE)	Dermal	Rabbit	LD50 > 19,400 mg/kg
POLY(DIMETHYLSILOXANE)	Ingestion	Rat	LD50 > 17,000 mg/kg
TRIDYMITE	Dermal		LD50 estimated to be > 5,000 mg/kg
TRIDYMITE	Ingestion		LD50 estimated to be > 5,000 mg/kg
QUARTZ SILICA	Dermal		LD50 estimated to be > 5,000 mg/kg
QUARTZ SILICA	Ingestion		LD50 estimated to be > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
VINYL-POLYDIMETHYLSILOXANE	Rabbit	No significant irritation
CRISTOBALITE	Professional judgement	No significant irritation
FUSED SILICA	Rabbit	No significant irritation
SILANE TREATED SILICA	Rabbit	No significant irritation
POLY(DIMETHYLSILOXANE)	Rabbit	No significant irritation
TRIDYMITE	Professional judgement	No significant irritation
QUARTZ SILICA	Professional judgement	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
VINYL-POLYDIMETHYLSILOXANE	Rabbit	Mild irritant
FUSED SILICA	Rabbit	No significant irritation
SILANE TREATED SILICA	Rabbit	No significant irritation
POLY(DIMETHYLSILOXANE)	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
FUSED SILICA	Human and animal	Not sensitizing
SILANE TREATED SILICA	Human and animal	Not sensitizing

Respiratory Sensitization

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

Germ Cell Mutagenicity

Name	Route	Value
CRISTOBALITE	In Vitro	Some positive data exist, but the data are not sufficient for classification
CRISTOBALITE	In vivo	Some positive data exist, but the data are not sufficient for classification
FUSED SILICA	In Vitro	Not mutagenic
SILANE TREATED SILICA	In Vitro	Not mutagenic
TRIDYMITE	In Vitro	Some positive data exist, but the data are not sufficient for classification
TRIDYMITE	In vivo	Some positive data exist, but the data are not sufficient for classification
QUARTZ SILICA	In Vitro	Some positive data exist, but the data are not sufficient for classification
QUARTZ SILICA	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
CRISTOBALITE	Inhalation	Human and	Carcinogenic

		animal	
FUSED SILICA	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
SILANE TREATED SILICA	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
TRIDYMITE	Inhalation	Human and animal	Carcinogenic
QUARTZ SILICA	Inhalation	Human and animal	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
FUSED SILICA	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
FUSED SILICA	Inhalation	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
FUSED SILICA	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
SILANE TREATED SILICA	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
SILANE TREATED SILICA	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
SILANE TREATED SILICA	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

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

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
CRISTOBALITE	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
FUSED SILICA	Inhalation	respiratory system silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
SILANE TREATED SILICA	Inhalation	respiratory system silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
TRIDYMITE	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
QUARTZ SILICA	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

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

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

SECTION 12: Ecological information

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material

and/or its components.

Chemical fate information

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

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Incinerate in a permitted waste incineration facility. As a disposal alternative, utilize an acceptable permitted waste disposal facility. If no other disposal options are available, waste product may be placed in a landfill properly designed for industrial waste.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - No Delayed Hazard - No

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 0 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Document Group:	31-4841-8	Version Number:	3.00
Issue Date:	02/25/16	Supersedes Date:	10/09/14

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Document Group:	31-4838-4	Version Number:	3.00
Issue Date:	02/25/16	Supersedes Date:	12/16/14

SECTION 1: Identification

1.1. Product identifier

3M™ ESPE™ IMPRINT™ 4 HEAVY BASE

Product Identification Numbers

LE-F100-1307-2

1.2. Recommended use and restrictions on use

Recommended use

Dental Product, Impression Material

Restrictions on use

For us only by dental professionals.

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Oral Care Solutions Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

2.1. Hazard classification

Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms**Hazard Statements**

May cause an allergic skin reaction.

Precautionary Statements**Prevention:**

Wear protective gloves.
Contaminated work clothing must not be allowed out of the workplace.

Response:

IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

Disposal:

Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
CRISTOBALITE	14464-46-1	35 - 45 Trade Secret *
VINYL-POLYDIMETHYL SILOXANE	68083-19-2	20 - 30 Trade Secret *
DIMETHYL METHYL HYDROGEN SILICONE FLUID	68037-59-2	1 - 10 Trade Secret *
FUSED SILICA	60676-86-0	1 - 10 Trade Secret *
SILANE TREATED SILICA	67762-90-7	1 - 10 Trade Secret *
ALLYLTRIMETHYLSILANE	762-72-1	< 5 Trade Secret *
POLY(DIMETHYLSILOXANE)	63148-62-9	< 5 Trade Secret *
POLYETHYLENE GLYCOL, SILOXANE TERMINATED	27306-78-1	< 5.0 Trade Secret *
TRIDYMITE	15468-32-3	< 5 Trade Secret *
QUARTZ SILICA	14808-60-7	< 1 Trade Secret *
CORNMINT OIL	68917-18-0	< 0.5 Trade Secret *

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures**Inhalation:**

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

Skin Contact:

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

Eye Contact:

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

If Swallowed:

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

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

See Section 11.1. Information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide
Irritant Vapors or Gases

Condition

During Combustion
During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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. Avoid contact with oxidizing agents (eg.

chlorine, chromic acid etc.) Do not get in eyes. A no-touch technique is recommended. If skin contact occurs, wash skin with soap and water. If product contacts glove, remove and discard glove, wash hands immediately with soap and water and then re-glove.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidizing agents. Store away from amines.

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	C.A.S. No.	Agency	Limit type	Additional Comments
CRISTOBALITE	14464-46-1	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
CRISTOBALITE	14464-46-1	OSHA	TWA concentration(as total dust):0.15 mg/m3;TWA concentration(respirable):0.05 mg/m3(1.2 millions of particles/cu. ft.)	
QUARTZ SILICA	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
QUARTZ SILICA	14808-60-7	OSHA	TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.)	
TRIDYMITE	15468-32-3	OSHA	TWA concentration(as total dust):0.15 mg/m3;TWA concentration(respirable):0.05 mg/m3(1.2 millions of particles/cu. ft.)	
SILICA, AMORPHOUS	60676-86-0	OSHA	TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft.	
SILANE TREATED SILICA	67762-90-7	CMRG	CEIL:5 mg/m3	
SILICA, AMORPHOUS	67762-90-7	OSHA	TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft.	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

Safety Glasses with side shields

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

General Physical Form:	Solid
Specific Physical Form:	Paste
Odor, Color, Grade:	smell of mint, white colored paste
Odor threshold	<i>No Data Available</i>
pH	<i>No Data Available</i>
Melting point	<i>Not Applicable</i>
Boiling Point	<i>Not Applicable</i>
Flash Point	No flash point
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Vapor Pressure	<i>No Data Available</i>
Vapor Density	<i>No Data Available</i>
Density	1.3 g/cm ³ - 1.5 g/cm ³
Specific Gravity	1.3 - 1.5 [<i>Ref Std: WATER=1</i>]
Solubility in Water	Negligible
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>Not Applicable</i>
Autoignition temperature	<i>No Data Available</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	<i>No Data Available</i>
Volatile Organic Compounds	<i>Not Applicable</i>
Percent volatile	<i>Not Applicable</i>
VOC Less H₂O & Exempt Solvents	<i>Not Applicable</i>

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 polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Strong acids

Strong bases

Strong oxidizing agents

Amines

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

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 labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

This document has been prepared in accordance with the U.S. OSHA Hazard Communication Standard, which requires the inclusion of all known hazards of the product or ingredients regardless of the potential risk. The risks of the hazards communicated in this document may vary depending on the potential for exposure.

The information below represents toxicological information associated with the individual components of the uncured product. Once properly mixed and/or cured, the product is safe for its intended use.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation:

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

Skin Contact:

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

Eye Contact:

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

Ingestion:

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

Additional Health Effects:

Carcinogenicity:

Exposures needed to cause the following health effect(s) are not expected during normal, intended use:

Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
SILICA, CRYST AIRRESP	14464-46-1	Known human carcinogen	National Toxicology Program Carcinogens
SILICA, CRYST AIRRESP	14808-60-7	Known human carcinogen	National Toxicology Program Carcinogens
SILICA, CRYST AIRRESP	15468-32-3	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
SILICA, CRYST AIRRESP	15468-32-3	Known human carcinogen	National Toxicology Program Carcinogens
CRISTOBALITE	14464-46-1	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
QUARTZ SILICA	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on 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	Ingestion		No data available; calculated ATE > 5,000 mg/kg
CRISTOBALITE	Dermal		LD50 estimated to be > 5,000 mg/kg
CRISTOBALITE	Ingestion		LD50 estimated to be > 5,000 mg/kg
VINYL-POLYDIMETHYL SILOXANE	Dermal	Rabbit	LD50 > 15,440 mg/kg
VINYL-POLYDIMETHYL SILOXANE	Ingestion	Rat	LD50 > 15,440 mg/kg
DIMETHYL METHYL HYDROGEN SILICONE FLUID	Dermal	Rabbit	LD50 > 2,000 mg/kg
DIMETHYL METHYL HYDROGEN SILICONE FLUID	Ingestion	Rat	LD50 > 2,000 mg/kg
SILANE TREATED SILICA	Dermal	Rabbit	LD50 > 5,000 mg/kg
SILANE TREATED SILICA	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
SILANE TREATED SILICA	Ingestion	Rat	LD50 > 5,110 mg/kg
FUSED SILICA	Dermal	Rabbit	LD50 > 5,000 mg/kg
FUSED SILICA	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
FUSED SILICA	Ingestion	Rat	LD50 > 5,110 mg/kg
ALLYLTRIMETHYLSILANE	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
ALLYLTRIMETHYLSILANE	Ingestion	similar compounds	LD50 estimated to be 2,000 - 5,000 mg/kg
POLYETHYLENE GLYCOL, SILOXANE TERMINATED	Dermal	Rabbit	LD50 > 2,000 mg/kg
POLYETHYLENE GLYCOL, SILOXANE TERMINATED	Inhalation-Dust/Mist (4 hours)	Rat	LC50 2 mg/l
POLYETHYLENE GLYCOL, SILOXANE TERMINATED	Ingestion	Rat	LD50 > 2,000 mg/kg
POLY(DIMETHYLSILOXANE)	Dermal	Rabbit	LD50 > 19,400 mg/kg
POLY(DIMETHYLSILOXANE)	Ingestion	Rat	LD50 > 17,000 mg/kg
TRIDYMITE	Dermal		LD50 estimated to be > 5,000 mg/kg
TRIDYMITE	Ingestion		LD50 estimated to be > 5,000 mg/kg
QUARTZ SILICA	Dermal		LD50 estimated to be > 5,000 mg/kg
QUARTZ SILICA	Ingestion		LD50 estimated to be > 5,000 mg/kg
CORN MINT OIL	Dermal	Rabbit	LD50 > 5,000 mg/kg
CORN MINT OIL	Ingestion	Rat	LD50 1,240 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
CRISTOBALITE	Professional judgement	No significant irritation
VINYL-POLYDIMETHYL SILOXANE	Rabbit	No significant irritation

SILANE TREATED SILICA	Rabbit	No significant irritation
FUSED SILICA	Rabbit	No significant irritation
POLYETHYLENE GLYCOL, SILOXANE TERMINATED	Rabbit	No significant irritation
POLY(DIMETHYLSILOXANE)	Rabbit	No significant irritation
TRIDYMITE	Professional judgment	No significant irritation
QUARTZ SILICA	Professional judgment	No significant irritation
CORNMINT OIL	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
VINYL-POLYDIMETHYL SILOXANE	Rabbit	Mild irritant
SILANE TREATED SILICA	Rabbit	No significant irritation
FUSED SILICA	Rabbit	No significant irritation
POLYETHYLENE GLYCOL, SILOXANE TERMINATED	Rabbit	Severe irritant
POLY(DIMETHYLSILOXANE)	Rabbit	No significant irritation
CORNMINT OIL	In vitro data	Severe irritant

Skin Sensitization

Name	Species	Value
SILANE TREATED SILICA	Human and animal	Not sensitizing
FUSED SILICA	Human and animal	Not sensitizing
POLYETHYLENE GLYCOL, SILOXANE TERMINATED	Guinea pig	Not sensitizing
CORNMINT OIL	Guinea pig	Sensitizing

Respiratory Sensitization

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

Germ Cell Mutagenicity

Name	Route	Value
CRISTOBALITE	In Vitro	Some positive data exist, but the data are not sufficient for classification
CRISTOBALITE	In vivo	Some positive data exist, but the data are not sufficient for classification
SILANE TREATED SILICA	In Vitro	Not mutagenic
FUSED SILICA	In Vitro	Not mutagenic
POLYETHYLENE GLYCOL, SILOXANE TERMINATED	In Vitro	Not mutagenic
POLYETHYLENE GLYCOL, SILOXANE TERMINATED	In vivo	Not mutagenic
TRIDYMITE	In Vitro	Some positive data exist, but the data are not sufficient for classification
TRIDYMITE	In vivo	Some positive data exist, but the data are not sufficient for classification
QUARTZ SILICA	In Vitro	Some positive data exist, but the data are not sufficient for classification
QUARTZ SILICA	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
CRISTOBALITE	Inhalation	Human	Carcinogenic

		and animal	
SILANE TREATED SILICA	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
FUSED SILICA	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
TRIDYMITTE	Inhalation	Human and animal	Carcinogenic
QUARTZ SILICA	Inhalation	Human and animal	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
SILANE TREATED SILICA	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
SILANE TREATED SILICA	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
SILANE TREATED SILICA	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
FUSED SILICA	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
FUSED SILICA	Inhalation	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
FUSED SILICA	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
POLYETHYLENE GLYCOL, SILOXANE TERMINATED	Ingestion	Some positive reproductive/developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 450 mg/kg/day	prematuring & during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

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

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
CRISTOBALITE	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
SILANE TREATED SILICA	Inhalation	respiratory system silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
FUSED SILICA	Inhalation	respiratory system silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
TRIDYMITTE	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
QUARTZ SILICA	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

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

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

SECTION 12: Ecological information

Ecotoxicological information

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

Chemical fate information

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

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

This material contains one or more substances not listed on the TSCA Inventory. Commercial use of this material is regulated by the FDA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Document Group:	31-4838-4	Version Number:	3.00
Issue Date:	02/25/16	Supersedes Date:	12/16/14

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