

3M™ ESPE™ PROTEMP™ 4 REFILLS

UN No Not applicable

Proper Shipping Name Not applicable

Hazard Classes/Division Not applicable

Subsidiary Risk Not applicable

Packing Group: Not applicable

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Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

SECTION 1: Identification

1.1. Product identifier

3M ESPE Protemp 4 Calalyst Paste

1.2. Recommended use and restrictions on use

Recommended use

Dental Material, Temporary crown and bridge material

Restrictions on use

For use by dental professionals only.

1.3. Supplier's details

Address: 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100

Telephone: 080-39143000, contact Product EHS team

E Mail: productehs.in@mmm.com

Website: <http://solutions.3mindia.co.in>

1.4. Emergency telephone number

080-39143000 (Contact hours: 8:00 AM to 5:00 PM)

SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

2.1. Classification of the substance or mixture

Acute Toxicity (oral): Category 5.

Acute Toxicity (dermal): Category 5.

2.2. Label elements

Signal Word

WARNING!

Symbols

3M ESPE Protemp 4 Calalyst Paste

Pictograms

Not applicable.

HAZARD STATEMENTS:

H303 May be harmful if swallowed.
H313 May be harmful in contact with skin.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
2,2'-(1-methylethylidene)bis(4,1-phenyleneoxy)]bisethyldiacetate	19224-29-4	70 - 80
Benzyl-phenyl-barbituric acid	72846-00-5	5 - 15
SILANE TREATED SILICA	68909-20-6	5 - 15
Tert-butyl 3,5,5-trimethylperoxyhexanoate	13122-18-4	< 0.4

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

3M ESPE Protemp 4 Calalyst Paste

Substance

Carbon monoxide.
Carbon dioxide.
Irritant vapours 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

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

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

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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not get in eyes.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No occupational exposure limit values exist for any of the components listed in Section 3 of this Safety Data Sheet.

8.2. Exposure controls

8.2.1. Engineering controls

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

Safety glasses with side shields.

Skin/hand protection

3M ESPE Protemp 4 Calalyst Paste

See Section 7.1 for additional information on skin protection.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Paste
Appearance/Odour	white, paste, slight acridic odour
Odour threshold	<i>No data available.</i>
pH	<i>Not applicable.</i>
Melting point/Freezing point: NA	<i>No data available.</i>
Boiling point/Initial boiling point/Boiling range	<i>No data available.</i>
Flash point	No flash point
Evaporation rate	<i>No data available.</i>
Flammability (solid, gas)	Not classified
Flammable Limits(LEL)	<i>No data available.</i>
Flammable Limits(UEL)	<i>No data available.</i>
Vapour pressure	<i>No data available.</i>
Vapour density	<i>No data available.</i>
Density	1.2 - 1.3 g/cm ³
Relative density	1.2 - 1.3 [<i>Ref Std: WATER=1</i>]
Water solubility	Negligible
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Autoignition temperature	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	<i>No data available.</i>
Molecular weight	<i>No data available.</i>
Percent volatile	<i>No data available.</i>

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

None known.

10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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3M ESPE Protemp 4 Calalyst Paste

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 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:

Inhalation

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

Skin contact

May be harmful in contact with skin.

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

Eye contact

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

Ingestion

May be harmful if swallowed.

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

Toxicological Data

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE2,000 - 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE2,000 - 5,000 mg/kg
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bisethyldiacetate	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bisethyldiacetate	Ingestion	Rat	LD50 > 2,000 mg/kg
Benzyl-phenyl-barbituric acid	Dermal	Professional judgement	LD50 estimated to be 2,000 - 5,000 mg/kg
Benzyl-phenyl-barbituric acid	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
Tert-butyl 3,5,5-trimethylperoxyhexanoate	Dermal	Rat	LD50 > 2,000 mg/kg
Tert-butyl 3,5,5-trimethylperoxyhexanoate	Inhalation-	Rat	LC50 > 0.8 mg/l

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	Dust/Mist (4 hours)		
Tert-butyl 3,5,5-trimethylperoxyhexanoate	Ingestion	Rat	LD50 12,905 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bisethyldiacetate	In vitro data	No significant irritation
SILANE TREATED SILICA	Rabbit	No significant irritation
Tert-butyl 3,5,5-trimethylperoxyhexanoate	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bisethyldiacetate	In vitro data	No significant irritation
SILANE TREATED SILICA	Rabbit	No significant irritation
Tert-butyl 3,5,5-trimethylperoxyhexanoate	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bisethyldiacetate	Mouse	Not sensitizing
Benzyl-phenyl-barbituric acid	Mouse	Not sensitizing
SILANE TREATED SILICA	Human and animal	Not sensitizing
Tert-butyl 3,5,5-trimethylperoxyhexanoate	Guinea pig	Sensitising

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bisethyldiacetate	In Vitro	Not mutagenic
Benzyl-phenyl-barbituric acid	In Vitro	Not mutagenic
SILANE TREATED SILICA	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
SILANE TREATED SILICA	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test result	Exposure Duration
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)

3M ESPE Protemp 4 Calalyst Paste**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Benzyl-phenyl-barbituric acid	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,000 mg/kg	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
SILANE TREATED SILICA	Inhalation	respiratory system silicosis	All data are negative	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

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
Tert-butyl 3,5,5-trimethylperoxyhexanoate	13122-18-4		Data not available or insufficient for classification			
SILANE TREATED SILICA	68909-20-6	Algae	Estimated	72 hours	EC50	>100 mg/l
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bisethyldiacetate	19224-29-4	Fathead minnow	Estimated	96 hours	LC50	0.93 mg/l
Benzyl-phenyl-barbituric acid	72846-00-5		Data not available or insufficient for classification			

3M ESPE Protemp 4 Calalyst Paste**12.2. Persistence and degradability**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Tert-butyl 3,5,5-trimethylperoxyhexanoate	13122-18-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
SILANE TREATED SILICA	68909-20-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bisethyldiacetate	19224-29-4	Estimated Biodegradation	28 days	BOD	81 % weight	OECD 301F - Manometric respirometry
Benzyl-phenyl-barbituric acid	72846-00-5	Modeled Biodegradation	28 days	BOD	30.6 % weight	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
SILANE TREATED SILICA	68909-20-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxy)]bisethyldiacetate	19224-29-4	Estimated Bioconcentration		Bioaccumulation factor	6	Other methods
Benzyl-phenyl-barbituric acid	72846-00-5	Modeled Bioconcentration		Bioaccumulation factor	4.84	Other methods
Tert-butyl 3,5,5-trimethylperoxyhexanoate	13122-18-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other Adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Disposal methods**

See Section 11.1 Information on toxicological effects

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility.

SECTION 14: Transport Information

Not hazardous for transportation.

Air Transport (IATA) Regulations

UN No Not applicable

Proper Shipping Name Not applicable

Hazard Class/Division Not applicable

Subsidiary Risk Not applicable

Packing Group: Not applicable

SECTION 15: Regulatory information

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

Global inventory status

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

Applicable Environmental, Health and Safety Regulations

Not applicable

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules

None.

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:

Product is classified as non-hazardous

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.

Revision information:

No revision information

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This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

SECTION 1: Identification

1.1. Product identifier

3M ESPE Protemp 4 Base Paste

1.2. Recommended use and restrictions on use

Recommended use

Dental Material, Temporary crown and bridge material

Restrictions on use

For use by dental professionals only.

1.3. Supplier's details

Address: 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100

Telephone: 080-39143000, contact Product EHS team

E Mail: productehs.in@mmm.com

Website: <http://solutions.3mindia.co.in>

1.4. Emergency telephone number

080-39143000 (Contact hours: 8:00 AM to 5:00 PM)

SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

2.1. Classification of the substance or mixture

Not classified as hazardous according to UN GHS criteria.

2.2. Label elements

Signal Word

Symbols

Pictograms

Not applicable.

3M ESPE Protemp 4 Base Paste

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
DIMETHACRYLATE (BISEMA6)	41637-38-1	45 - 55
Silane treated amorphous silica	None	20 - 30
REACTION PRODUCTS OF 1,6-DIISOCYANATOHEXANE WITH 2-[(2-METHACRYLOYL)ETHYL]6-HYDROXYHEXANOATE AND 2-HYDROXYETHYL METHACRYLATE (DESMA)	1101874-33-2	10 - 15
SILANE TREATED SILICA	68909-20-6	5 - 10

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

No need for first aid is anticipated.

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

Carbon monoxide.

Carbon dioxide.

Condition

During combustion.

During combustion.

3M ESPE Protemp 4 Base Paste

Irritant vapours or gases.

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. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. 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. Seal the container. 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.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No occupational exposure limit values exist for any of the components listed in Section 3 of this Safety Data Sheet.

8.2. Exposure controls

8.2.1. Engineering controls

Use in a well-ventilated area.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

Safety glasses with side shields.

Skin/hand protection

See Section 7.1 for additional information on skin protection.

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid. Paste
Specific Physical Form:	Paste
Appearance/Odour	tooth coloured paste, slight acrylic odour
Odour threshold	<i>No data available.</i>
pH	<i>Not applicable.</i>
Melting point/Freezing point: NA	<i>No data available.</i>
Boiling point/Initial boiling point/Boiling range	<i>No data available.</i>
Flash point	<i>Not applicable.</i>
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>
Vapour pressure	<i>No data available.</i>
Vapour density	<i>No data available.</i>
Density	1.3 - 1.4 g/cm ³
Relative density	1.3 - 1.4 [<i>Ref Std: WATER=1</i>]
Water solubility	Negligible
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Autoignition temperature	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	<i>No data available.</i>
Molecular weight	<i>No data available.</i>
Volatile organic compounds (VOC)	<i>Not applicable.</i>
Percent volatile	<i>Not applicable.</i>
VOC less H ₂ O & 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 polymerisation will not occur.

10.4 Conditions to avoid

Heat.

10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products

Substance

None known.

Condition

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 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:

Inhalation

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

Skin contact

No information available.

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.

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
DIMETHACRYLATE (BISEMA6)	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
DIMETHACRYLATE (BISEMA6)	Ingestion	Rat	LD50 > 2,000 mg/kg
REACTION PRODUCTS OF 1,6-DIISOCYANATOHEXANE WITH 2-[(2-METHACRYLOYL)ETHYL]6-HYDROXYHEXANOATE AND 2-HYDROXYETHYL METHACRYLATE (DESMA)	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
REACTION PRODUCTS OF 1,6-DIISOCYANATOHEXANE WITH 2-[(2-METHACRYLOYL)ETHYL]6-HYDROXYHEXANOATE AND 2-HYDROXYETHYL METHACRYLATE (DESMA)	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

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
REACTION PRODUCTS OF 1,6-DIISOCYANATOHEXANE WITH 2-[(2-	Rabbit	Minimal irritation

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METHACRYLOYL)ETHYL]6-HYDROXYHEXANOATE AND 2-HYDROXYETHYL METHACRYLATE (DESMA)		
SILANE TREATED SILICA	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	Rabbit	Mild irritant
REACTION PRODUCTS OF 1,6-DIISOCYANATOHEXANE WITH 2-[(2-METHACRYLOYL)ETHYL]6-HYDROXYHEXANOATE AND 2-HYDROXYETHYL METHACRYLATE (DESMA)	In vitro data	No significant irritation
SILANE TREATED SILICA	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
DIMETHACRYLATE (BISEMA6)	Guinea pig	Not sensitizing
REACTION PRODUCTS OF 1,6-DIISOCYANATOHEXANE WITH 2-[(2-METHACRYLOYL)ETHYL]6-HYDROXYHEXANOATE AND 2-HYDROXYETHYL METHACRYLATE (DESMA)	Mouse	Not sensitizing
SILANE TREATED SILICA	Human and animal	Not sensitizing

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
DIMETHACRYLATE (BISEMA6)	In Vitro	Not mutagenic
REACTION PRODUCTS OF 1,6-DIISOCYANATOHEXANE WITH 2-[(2-METHACRYLOYL)ETHYL]6-HYDROXYHEXANOATE AND 2-HYDROXYETHYL METHACRYLATE (DESMA)	In Vitro	Not mutagenic
SILANE TREATED SILICA	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
SILANE TREATED SILICA	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test result	Exposure Duration
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

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Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
SILANE TREATED SILICA	Inhalation	respiratory system silicosis	All data are negative	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

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
REACTION PRODUCTS OF 1,6-DIISOCYANATOHEXANE WITH 2-[(2-METHACRYLOYL)ETHYL] 6-HYDROXYHEXANOATE AND 2-HYDROXYETHYL METHACRYLATE (DESMA)	1101874-33-2	Green algae	Experimental	72 hours	EC50	>100 mg/l
REACTION PRODUCTS OF 1,6-DIISOCYANATOHEXANE WITH 2-[(2-METHACRYLOYL)ETHYL] 6-HYDROXYHE	1101874-33-2	Water flea	Experimental	48 hours	EC50	>100 mg/l

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XANOATE AND 2-HYDROXYETHYL METHACRYLATE (DESMA)						
DIMETHACRYLATE (BISEMA6)	41637-38-1		Data not available or insufficient for classification			
SILANE TREATED SILICA	68909-20-6	Algae	Estimated	72 hours	EC50	>100 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
REACTION PRODUCTS OF 1,6-DIISOCYANATOHEXANE WITH 2-[(2-METHACRYLOYL)ETHYL] 6-HYDROXYHEXANOATE AND 2-HYDROXYETHYL METHACRYLATE (DESMA)	1101874-33-2	Experimental Biodegradation	28 days	BOD	6 % weight	OECD 301F - Manometric respirometry
DIMETHACRYLATE (BISEMA6)	41637-38-1	Calculated Biodegradation	28 days	BOD	38 % weight	OECD 301C - MITI test (I)
SILANE TREATED SILICA	68909-20-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
REACTION PRODUCTS OF 1,6-DIISOCYANATOHEXANE WITH 2-[(2-METHACRYLOYL)ETHYL] 6-HYDROXYHEXANOATE	1101874-33-2	Experimental Bioconcentration		Log Kow	7.28	Other methods

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AND 2-HYDROXYETHYL METHACRYLATE (DESMA)						
SILANE TREATED SILICA	68909-20-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
DIMETHACRYLATE (BISEMA6)	41637-38-1	Calculated Bioconcentration		Bioaccumulation factor	6.7	Estimated: Bioconcentration factor

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other Adverse effects

No information available.

SECTION 13: Disposal considerations**13.1. Disposal methods**

See Section 11.1 Information on toxicological effects

Prior to disposal, consult all applicable authorities and regulations to insure proper classification. Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. If no other disposal options are available, waste product may be placed in a landfill properly designed for industrial waste.

SECTION 14: Transport Information

Not hazardous for transportation.

Air Transport (IATA) Regulations

UN No Not applicable

Proper Shipping Name Not applicable

Hazard Class/Division Not applicable

Subsidiary Risk Not applicable

Packing Group: Not applicable

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Global inventory status**

Contact 3M for more information.

Applicable Environmental, Health and Safety Regulations

Not applicable

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules

None.

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India

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Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:
Product is classified as non-hazardous

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.

Revision information:

No revision information

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 India SDSs are available at <http://solutions.3mindia.co.in>