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.

IDENTIFICATION

1.1. Product identifier
3M™ Scotch-Weld™ Epoxy Adhesive 7838 B/A : Kit

Product Identification Numbers
UU-0093-3876-3

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

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)

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet for each of these components is included. Please do not separate the component Safety Data Sheets from this cover page. The document numbers of the MSDSs for components of this product are:

35-9151-8, 11-3040-0

TRANSPORT INFORMATION

Air Transport (IATA)Regulations
UN No Not applicable
Proper Shipping Name Not applicable
Hazard Classs/Division Not applicable
Subsidiary Risk Not applicable
Packing Group: Not applicable

Marine Transport (IMDG)
UN No Not applicable

Proper Shipping Name Not applicable
Hazard Classs/Division Not applicable
Subsidiary Risk Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

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.

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Safety Data Sheet

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Document group:	11-3040-0	**Version number:**	1.00
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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 Scotch-weld Structural Spray Adhesive 7838 (Base)

1.2. Recommended use and restrictions on use

Recommended use
Part B of a 2-Component Epoxy Structural Adhesive, Structural adhesive.

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
Serious Eye Damage/Irritation: Category 2B.
Skin Corrosion/Irritation: Category 3.
Skin Sensitizer: Category 1.
Specific Target Organ Toxicity (repeated exposure): Category 1.
Acute Aquatic Toxicity: Category 1.
Chronic Aquatic Toxicity: Category 2.

2.2. Label elements
Signal Word
DANGER!

Symbols

Exclamation mark | Health Hazard |Environment |

Pictograms

HAZARD STATEMENTS:

H320	Causes eye irritation.
H316	Causes mild skin irritation.
H317	May cause an allergic skin reaction.
H372	Causes damage to organs through prolonged or repeated exposure: respiratory system
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280E	Wear protective gloves.
P273	Avoid release to the environment.

Response:

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

Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Epoxy Resin (MW <700)	25068-38-6	30 - 60
Aluminum Silicate	1332-58-7	15 - 40
Calcium Carbonate	471-34-1	7 - 13

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	Condition
Aldehydes.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. 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
Contain spill. 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 in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke

when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities
Store away from heat. Store away from acids. Store away from oxidising agents.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Aluminum Silicate	1332-58-7	ACGIH	TWA(respirable fraction):2 mg/m3	A4: Not class. as human carcin

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Provide appropriate local exhaust ventilation for cutting, grinding, sanding or machining. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

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

Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Coveralls - Disposable, laminate

Respiratory protection

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

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Paste
Color	Cream
Odor	Slight Odor
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point: NA	*No data available.*
Boiling point/Initial boiling point/Boiling range	>=200 ºC
Flash point	>=101 ºC [*Test Method:*Closed Cup]
Evaporation rate	*Not applicable.*
Flammability (solid, gas)	Not classified
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*Not applicable.*
Vapour density	*Not applicable.*
Density	1.33 - 1.45 g/ml
Relative density	1.33 - 1.45 [*Ref Std:*WATER=1]
Water solubility	Nil
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
Viscosity	200 - 400 Pa-s [@ 23 ºC] [*Test Method:*Brookfield]
Molecular weight	*No data available.*
Volatile organic compounds (VOC)	0 g/l [*Test Method:*calculated SCAQMD rule 443.1]
Percent volatile	0 %
VOC less H2O & exempt solvents	0 g/l [*Test Method:*calculated SCAQMD rule 443.1]

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
None known.

10.5 Incompatible materials
Strong acids.
Strong oxidising agents.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not 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
May cause additional health effects (see below).

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

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

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

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

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
Epoxy Resin (MW <700)	Dermal	Rat	LD50 > 1,600 mg/kg
Epoxy Resin (MW <700)	Ingestion	Rat	LD50 > 1,000 mg/kg
Aluminum Silicate	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminum Silicate	Ingestion	Human	LD50 > 15,000 mg/kg
Calcium Carbonate	Dermal	Rat	LD50 > 2,000 mg/kg
Calcium Carbonate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
Calcium Carbonate	Ingestion	Rat	LD50 6,450 mg/kg

ATE = acute toxicity estimate

3M Scotch-weld Structural Spray Adhesive 7838 (Base)

Skin Corrosion/Irritation

Name	Species	Value
Epoxy Resin (MW <700)	Rabbit	Mild irritant
Aluminum Silicate	Professional judgement	No significant irritation
Calcium Carbonate	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Epoxy Resin (MW <700)	Rabbit	Moderate irritant
Aluminum Silicate	Professional judgement	No significant irritation
Calcium Carbonate	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
Epoxy Resin (MW <700)	Human and animal	Sensitising

Respiratory Sensitisation

Name	Species	Value
Epoxy Resin (MW <700)	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Epoxy Resin (MW <700)	In vivo	Not mutagenic
Epoxy Resin (MW <700)	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Epoxy Resin (MW <700)	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Aluminum Silicate	Inhalation	Multiple animal species	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Epoxy Resin (MW <700)	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy Resin (MW <700)	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy Resin (MW <700)	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Epoxy Resin (MW <700)	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Calcium Carbonate	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	premating & during

					gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Calcium Carbonate	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Epoxy Resin (MW <700)	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Epoxy Resin (MW <700)	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Epoxy Resin (MW <700)	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Aluminum Silicate	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL NA	occupational exposure
Aluminum Silicate	Inhalation	pulmonary fibrosis	Not classified	Rat	NOAEL Not available	
Calcium Carbonate	Inhalation	respiratory system	Not classified	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:
GHS Acute 1: Very toxic to aquatic life.

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
Epoxy Resin (MW <700)	25068-38-6	Rainbow trout	Estimated	96 hours	LC50	2 mg/l

Epoxy Resin (MW <700)	25068-38-6	Water flea	Estimated	48 hours	LC50	1.8 mg/l
Epoxy Resin (MW <700)	25068-38-6	Green Algae	Experimental	72 hours	EC50	>11 mg/l
Epoxy Resin (MW <700)	25068-38-6	Green Algae	Experimental	72 hours	NOEC	4.2 mg/l
Epoxy Resin (MW <700)	25068-38-6	Water flea	Experimental	21 days	NOEC	0.3 mg/l
Aluminum Silicate	1332-58-7	Water flea	Experimental	48 hours	LC50	>1,100 mg/l
Calcium Carbonate	471-34-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
Calcium Carbonate	471-34-1	Rainbow trout	Experimental	96 hours	LC50	>100 mg/l
Calcium Carbonate	471-34-1	Water flea	Experimental	48 hours	EC50	>100 mg/l
Calcium Carbonate	471-34-1	Green algae	Experimental	72 hours	Effect Concentration 10%	>100 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Epoxy Resin (MW <700)	25068-38-6	Experimental Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	Other methods
Epoxy Resin (MW <700)	25068-38-6	Experimental Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
Aluminum Silicate	1332-58-7	Data not available-insufficient			N/A	
Calcium Carbonate	471-34-1	Data not available-insufficient			N/A	

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Epoxy Resin (MW <700)	25068-38-6	Experimental Bioconcentration		Log Kow	3.242	Other methods
Aluminum Silicate	1332-58-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Calcium Carbonate	471-34-1	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
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

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. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. 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.

SECTION 14: Transport Information

Air Transport (IATA)Regulations
UN No UN3077
Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Epoxy Resin)
Hazard Classs/Division 9
Subsidiary Risk Not applicable
Packing Group: III

Marine Transport (IMDG)
UN No UN3077
Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Epoxy Resin)
Hazard Classs/Division 9
Subsidiary Risk Not applicable
Packing Group: III
Environmental Hazards: 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 material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Applicable Environmental, Health and Safety Regulations
The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989
Hazardous Waste(Management , Handling & Transboundary) Rules, 2008
Hazardous Chemicals (Classification, Packaging and Labelling Draft Rules), 2011

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:

The product is classified as Non-Hazardous as per MSIHC Rules, 1989.

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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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(tm) Scotch-Weld(tm) Epoxy Structural Adhesive 7838 B/A : Part A

1.2. Recommended use and restrictions on use

Recommended use
Industrial use.

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
Serious Eye Damage/Irritation: Category 1.
Skin Corrosion/Irritation: Category 2.
Skin Sensitizer: Category 1.
Carcinogenicity: Category 2.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
Signal Word
DANGER!

Symbols
Corrosion | Exclamation mark | Health Hazard |

Pictograms

HAZARD STATEMENTS:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure: respiratory system

PRECAUTIONARY STATEMENTS

Prevention:

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280B	Wear protective gloves and eye/face protection.
P280E	Wear protective gloves.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Other hazards

- May cause chemical gastrointestinal burns.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	68911-25-1	40 - 70
Calcium carbonate	471-34-1	10 - 30
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	7 - 13
Kaolin	1332-58-7	7 - 13
Iron hydroxide oxide yellow	51274-00-1	1 - 5
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	1 - 5
Titanium dioxide	13463-67-7	< 0.5

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

Eye contact
Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If swallowed
Rinse mouth. Do not induce vomiting. Get immediate 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.

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.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. 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 in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid breathing of dust created by cutting, sanding, grinding or machining. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
Store away from heat. Store away from oxidising agents.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Kaolin	1332-58-7	ACGIH	TWA(respirable fraction):2 mg/m3	A4: Not class. as human carcin
Titanium dioxide	13463-67-7	ACGIH	TWA:10 mg/m³	A4: Not class. as human carcin

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
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

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

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

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

Respiratory protection

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

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Paste
Color	Yellow-Brown
Odor	Amine
Odour threshold	*No data available.*
pH	*No data available.*
Melting point/Freezing point: NA	*No data available.*
Boiling point/Initial boiling point/Boiling range	>=152.2 ºC
Flash point	>=151.7 ºC
Evaporation rate	*No data available.*
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*No data available.*
Vapour density	*No data available.*
Density	*No data available.*
Relative density	1.08 - 1.2 [*Ref Std:*WATER=1]
Water solubility	*No data available.*
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
Viscosity	50 - 220 Pa-s [@ 23 ºC] [*Test Method:*Brookfield]

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

Strong oxidising agents.

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:

Inhalation
Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause additional health effects (see below).

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

Eye contact
Corrosive (eye burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion
Gastrointestinal corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea; blood in the faeces and/or vomitus may also be seen.

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

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

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Calcium carbonate	Dermal	Rat	LD50 > 2,000 mg/kg
Calcium carbonate	Inhalation-	Rat	LC50 3 mg/l

	Dust/Mist (4 hours)		
Calcium carbonate	Ingestion	Rat	LD50 6,450 mg/kg
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Dermal	Rabbit	LD50 2,500 mg/kg
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Ingestion	Rat	LD50 3,160 mg/kg
Kaolin	Dermal		LD50 estimated to be > 5,000 mg/kg
Kaolin	Ingestion	Human	LD50 > 15,000 mg/kg
Synthetic amorphous silica, fumed, crystalline-free	Dermal	Rabbit	LD50 > 5,000 mg/kg
Synthetic amorphous silica, fumed, crystalline-free	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Rat	LD50 > 5,110 mg/kg
Iron hydroxide oxide yellow	Dermal		LD50 estimated to be > 5,000 mg/kg
Iron hydroxide oxide yellow	Ingestion	Rat	LD50 > 10,000 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	Rabbit	Irritant
Calcium carbonate	Rabbit	No significant irritation
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Rabbit	Corrosive
Kaolin	Professional judgement	No significant irritation
Synthetic amorphous silica, fumed, crystalline-free	Rabbit	No significant irritation
Iron hydroxide oxide yellow	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	similar health hazards	Corrosive
Calcium carbonate	Rabbit	No significant irritation
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	similar health hazards	Corrosive
Kaolin	Professional judgement	No significant irritation
Synthetic amorphous silica, fumed, crystalline-free	Rabbit	No significant irritation
Iron hydroxide oxide yellow	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	Guinea pig	Sensitising
Synthetic amorphous silica, fumed, crystalline-free	Human and animal	Not classified
Iron hydroxide oxide yellow	Human and	Not classified

	animal	
Titanium dioxide	Human and animal	Not classified

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
Synthetic amorphous silica, fumed, crystalline-free	In Vitro	Not mutagenic
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Kaolin	Inhalation	Multiple animal species	Not carcinogenic
Synthetic amorphous silica, fumed, crystalline-free	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Iron hydroxide oxide yellow	Inhalation	Rat	Not carcinogenic
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Calcium carbonate	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	premating & during gestation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Synthetic amorphous silica, fumed, crystalline-free	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Calcium carbonate	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Calcium carbonate	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Kaolin	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL NA	occupational exposure
Kaolin	Inhalation	pulmonary fibrosis	Not classified	Rat	NOAEL Not	

					available	
Synthetic amorphous silica, fumed, crystalline-free	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Iron hydroxide oxide yellow	Inhalation	respiratory system | liver | kidney and/or bladder	Not classified	Rat	NOAEL 0.2 mg/l	14 days
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure

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
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	68911-25-1		Data not available or insufficient for classification			
Calcium carbonate	471-34-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
Calcium carbonate	471-34-1	Rainbow trout	Experimental	96 hours	LC50	>100 mg/l
Calcium carbonate	471-34-1	Water flea	Experimental	48 hours	EC50	>100 mg/l
Calcium carbonate	471-34-1	Green algae	Experimental	72 hours	Effect Concentration 10%	>100 mg/l
3,3'-	4246-51-9	Golden Orfe	Experimental	96 hours	LC50	>1,000 mg/l

Oxybis(ethyleneoxy)bis(propylamine)						
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Green algae	Experimental	72 hours	EC50	>500 mg/l
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Water flea	Experimental	48 hours	EC50	218.16 mg/l
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Green algae	Experimental	72 hours	Effect Concentration 10%	5.4 mg/l
Kaolin	1332-58-7	Water flea	Experimental	48 hours	LC50	>1,100 mg/l
Iron hydroxide oxide yellow	51274-00-1	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Iron hydroxide oxide yellow	51274-00-1	Zebra Fish	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Green Algae	Experimental	72 hours	EC50	>100 mg/l
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Water flea	Experimental	24 hours	EC50	>100 mg/l
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Green Algae	Experimental	72 hours	NOEC	60 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethylen	68911-25-1	Data not available-insufficient			N/A	

eoxy)bis(propy lamine)						
Calcium carbonate	471-34-1	Data not available-insufficient			N/A	
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Estimated Photolysis		Photolytic half-life (in air)	2.96 hours (t 1/2)	Other methods
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Experimental Biodegradation	25 days	CO2 evolution	-8 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Kaolin	1332-58-7	Data not available-insufficient			N/A	
Iron hydroxide oxide yellow	51274-00-1	Data not available-insufficient			N/A	
Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Data not available-insufficient			N/A	
Titanium dioxide	13463-67-7	Data not available-insufficient			N/A	

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	68911-25-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Calcium carbonate	471-34-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Experimental Bioconcentration		Log Kow	-1.25	Other methods
Kaolin	1332-58-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Iron hydroxide oxide yellow	51274-00-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

Synthetic amorphous silica, fumed, crystalline-free	112945-52-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulation factor	9.6	Other methods

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

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

SECTION 14: Transport Information

Not hazardous for transportation.

Air Transport (IATA)Regulations
UN No Not applicable
Proper Shipping Name Not applicable
Hazard Classs/Division Not applicable
Subsidiary Risk Not applicable
Packing Group: Not applicable

Marine Transport (IMDG)
UN No Not applicable
Proper Shipping Name Not applicable
Hazard Classs/Division Not applicable
Subsidiary Risk Not applicable
Packing Group: Not applicable
Environmental Hazards: 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
The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989
Hazardous Waste(Management , Handling & Transboundary) Rules, 2008
Hazardous Chemicals (Classification, Packaging and Labelling Draft Rules), 2011

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:
The product is classified as Non-Hazardous as per MSIHC Rules, 1989.

SECTION 16: Other information

NFPA Hazard Classification

Health: 3 **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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3M India SDSs are available at http://solutions.3mindia.co.in