Safety Data Sheet

Document group:	33-5983-3	**Version number:**	1.00
Issue Date:	11/09/2017	**Supersedes date:**	Initial issue.

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™ Impact Resistant Structural Adhesive PNs 07333, 57333

Product Identification Numbers
41-3588-1438-6 60-4550-8333-1 60-4550-8345-5 HB-0044-0462-8 JS-4000-0071-2

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

Recommended use
Automotive.

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:

33-5988-2, 33-5984-1

TRANSPORT INFORMATION

Air Transport (IATA)Regulations
UN No UN2735
Proper Shipping Name AMINES, LIQUID, CORROSIVE, N.O.S. (BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL AND METHYLENEDI(CYCLOHEXYLAMINE))
Hazard Classs/Division 8
Subsidiary Risk Not applicable

Packing Group: II

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

Safety Data Sheet

Document group:	33-5984-1	**Version number:**	1.01
Issue Date:	28/10/2024	**Supersedes date:**	11/09/2017

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™ Impact Resistant Structural Adhesive Part A, PNs 07333, 57333

Product Identification Numbers
LB-K100-1573-6 LB-K100-1573-7

1.2. Recommended use and restrictions on use

Recommended use
Automotive., Accelerator for two-part color changing adhesive with optimized shear, peel and impact performance.

1.3. Supplier's details
Address: 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100
Telephone: 080-45543000, contact Product EHS team
E Mail: productehs.in@mmm.com
Website: http://solutions.3mindia.co.in

1.4. Emergency telephone number
080-45543000 (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 4.
Acute Toxicity (dermal): Category 5.
Skin Corrosion/Irritation: Category 1B.
Serious Eye Damage/Irritation: Category 1.
Skin Sensitizer: Category 1A.
Carcinogenicity: Category 1A.
Reproductive Toxicity: Category 2.
Specific Target Organ Toxicity (repeated exposure): Category 2.
Acute Aquatic Toxicity: Category 3.

Chronic Aquatic Toxicity: Category 2.

2.2. Label elements
Signal Word
Danger

Symbols
Corrosion | Exclamation mark | Health Hazard | Environment |

Pictograms

HAZARD STATEMENTS:

H302	Harmful if swallowed.
H313	May be harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H350	May cause cancer.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure: kidney/urinary tract | liver | musculoskeletal system.
H402	Harmful to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS
General:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Prevention:

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.
P280J	Wear protective gloves, protective clothing, respiratory protection, and eye/face protection.

Response:

P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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.
P391	Collect spillage.

Storage:

P405	Store locked up.

Disposal:

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

2.3. Other hazards

Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines. - May cause chemical gastrointestinal burns.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Bis(3-Aminopropyl) Ether of Diethylene Glycol	4246-51-9	15 - 40
Epoxy Copolymer	Trade Secret	10 - 30
Acrylic copolymer	Trade Secret	5 - 15
2-Propenenitrile, Polymer with 1,3-Butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated	68683-29-4	5 - 10
Aluminium	7429-90-5	5 - 10
Methylenedi(cyclohexylamine)	1761-71-3	5 - 9
Treated Inorganic Filler	Trade Secret	3 - 7
Inorganic Filler	Trade Secret	1 - 5
Mineral Filler	Trade Secret	1 - 5
Treated Filler	Trade Secret	1 - 5
2,4,6-Tris(dimethylaminomonomethyl)phenol	90-72-2	< 3
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	< 2
Formaldehyde, Polymer with Benzenamine, Hydrogenated	135108-88-2	< 2
N-Aminoethylpiperazine	140-31-8	< 0.25
Quartz	14808-60-7	< 0.2

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 flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

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

Skin burns (localized redness, swelling, itching, intense pain, blistering, and tissue destruction). Allergic skin reaction (redness, swelling, blistering, and itching). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision). Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

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
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. 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
Keep out of reach of children. 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 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
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	ACGIH	CEIL:0.018 ppm	Danger of cutaneous absorption
Quartz	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
Aluminium	7429-90-5	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcin
Inorganic Filler	Trade Secret	Manufacturer determined	TWA(as non-fibrous, respirable)(8 hours):3 mg/m3;TWA(as non-fibrous, inhalable fraction)(8 hours):10 mg/m3	
Inorganic Filler	Trade Secret	ACGIH	TWA(as fiber):0.2 fiber/cc	A2: Suspected human carcin.
Inorganic Filler	Trade Secret	ACGIH	TWA(as fiber):1 fiber/cc	A3: Confirmed animal carcin.
Inorganic Filler	Trade Secret	ACGIH	TWA(as fiber):1 fiber/cc	A4: Not class. as human carcin
Inorganic Filler	Trade Secret	ACGIH	TWA(inhalable fraction):5 mg/m3	A4: Not class. as human carcin
Mineral Filler	Trade Secret	ACGIH	TWA(inhalable fraction):1 mg/m3	A4: Not class. as human carcin
Treated Filler	Trade Secret	ACGIH	TWA(inhalable particulates):10 mg/m3	
Treated Filler	Trade Secret	ACGIH	TWA(respirable particles):3 mg/m3	

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 ventilated enclosure for curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. 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.
Gloves made from the following material(s) are recommended: Butyl rubber.
Neoprene.
Nitrile rubber.

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

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
Half facepiece or full facepiece supplied-air respirator

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	Silver-Gray
Odor	Very Slight Acrylic
Odour threshold	*No data available.*
pH	*No data available.*
Melting point/Freezing point: NA	*No data available.*
Boiling point/Initial boiling point/Boiling range	*No data available.*
Flash point	103.9 ºC [*Test Method:*Closed Cup]
Evaporation rate	*No data available.*
Flammability	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	666.6 Pa
Vapor Density and/or Relative Vapor Density	*No data available.*
Density	1.18 g/ml
Relative density	1.18 [*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.*
Kinematic Viscosity	46,610 mm²/sec
Volatile organic compounds (VOC)	0.3 % weight [*Test Method:*calculated per CARB title 2]
Volatile organic compounds (VOC)	3 g/l [*Test Method:*calculated SCAQMD rule 443.1]
Percent volatile	0.3 % weight
VOC less H2O & exempt solvents	3 g/l [*Test Method:*calculated SCAQMD rule 443.1]

Molecular weight	*No data available.*

Particle Characteristics	*Not applicable.*

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
Heat.
Sparks and/or flames.

10.5 Incompatible materials
Strong acids.
Strong oxidising agents.

10.6 Hazardous decomposition products

Substance	Condition
Aldehydes.	Not specified.
Carbon monoxide.	Not specified.
Carbon dioxide.	Not specified.

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
May be harmful in contact with skin.
Corrosive (skin burns): Signs/symptoms may include localised redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction. 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
Harmful if swallowed.
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. May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
Liver effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice. Muscular effects: Signs/symptoms may include generalised muscle weakness, paralysis and atrophy. Kidney/Bladder effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

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

Additional information:
Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines.

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 >2,000 - =5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >300 - =2,000 mg/kg
Bis(3-Aminopropyl) Ether of Diethylene Glycol	Dermal	Rabbit	LD50 2,525 mg/kg
Bis(3-Aminopropyl) Ether of Diethylene Glycol	Ingestion	Rat	LD50 2,850 mg/kg
Aluminium	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminium	Ingestion		LD50 estimated to be > 5,000 mg/kg
Aluminium	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.888 mg/l
Methylenedi(cyclohexylamine)	Dermal	Rabbit	LD50 2,110 mg/kg
Methylenedi(cyclohexylamine)	Ingestion	Rat	LD50 350 mg/kg
2-Propenenitrile, Polymer with 1,3-Butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated	Dermal	Rabbit	LD50 > 3,000 mg/kg
2-Propenenitrile, Polymer with 1,3-Butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated	Ingestion	Rat	LD50 > 15,300 mg/kg
Treated Inorganic Filler	Dermal	Rabbit	LD50 > 5,000 mg/kg
Treated Inorganic Filler	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Treated Inorganic Filler	Ingestion	Rat	LD50 > 5,110 mg/kg
Treated Filler	Dermal	Rat	LD50 > 2,000 mg/kg
Treated Filler	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
Treated Filler	Ingestion	Rat	LD50 6,450 mg/kg
Mineral Filler	Ingestion	Rat	LD50 > 5,000 mg/kg
Mineral Filler	Dermal	similar	LD50 > 5,000 mg/kg

		compounds	
Mineral Filler	Inhalation-Dust/Mist (4 hours)	similar compounds	LC50 > 2.08 mg/l
2,4,6-Tris(dimethylaminomonomethyl)phenol	Dermal	Rat	LD50 1,280 mg/kg
2,4,6-Tris(dimethylaminomonomethyl)phenol	Ingestion	Rat	LD50 1,000 mg/kg
m-Xylene-.alpha.alpha'.Diamine	Dermal	Rabbit	LD50 > 2,000 mg/kg
m-Xylene-.alpha.alpha'.Diamine	Inhalation-Dust/Mist (4 hours)	Rat	LC50 1.2 mg/l
m-Xylene-.alpha.alpha'.Diamine	Ingestion	Rat	LD50 980 mg/kg
Formaldehyde, Polymer with Benzenamine, Hydrogenated	Dermal	Rat	LD50 > 700 mg/kg
Formaldehyde, Polymer with Benzenamine, Hydrogenated	Ingestion	Rat	LD50 300 mg/kg
Inorganic Filler	Dermal		LD50 estimated to be > 5,000 mg/kg
Inorganic Filler	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
N-Aminoethylpiperazine	Dermal	Rabbit	LD50 865 mg/kg
N-Aminoethylpiperazine	Ingestion	Rat	LD50 1,470 mg/kg
Quartz	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz	Ingestion		LD50 estimated to be > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Bis(3-Aminopropyl) Ether of Diethylene Glycol	Rabbit	Corrosive
Aluminium	Rabbit	No significant irritation
Methylenedi(cyclohexylamine)	Rabbit	Corrosive
2-Propenenitrile, Polymer with 1,3-Butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated	Rabbit	Irritant
Treated Inorganic Filler	Rabbit	No significant irritation
Treated Filler	Rabbit	No significant irritation
Mineral Filler	similar compounds	No significant irritation
2,4,6-Tris(dimethylaminomonomethyl)phenol	Rabbit	Corrosive
m-Xylene-.alpha.alpha'.Diamine	Rat	Corrosive
Formaldehyde, Polymer with Benzenamine, Hydrogenated	In vitro data	Corrosive
Inorganic Filler	Professional judgement	No significant irritation
N-Aminoethylpiperazine	Rabbit	Corrosive
Quartz	Professional judgement	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Bis(3-Aminopropyl) Ether of Diethylene Glycol	Rabbit	Corrosive
Aluminium	Rabbit	No significant irritation
Methylenedi(cyclohexylamine)	Rabbit	Corrosive
2-Propenenitrile, Polymer with 1,3-Butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated	Rabbit	Mild irritant
Treated Inorganic Filler	Rabbit	No significant irritation
Treated Filler	Rabbit	No significant irritation
Mineral Filler	similar compounds	Mild irritant
2,4,6-Tris(dimethylaminomonomethyl)phenol	Rabbit	Corrosive
m-Xylene-.alpha.alpha'.Diamine	Rabbit	Corrosive

Formaldehyde, Polymer with Benzenamine, Hydrogenated	similar health hazards	Corrosive
Inorganic Filler	Professional judgement	No significant irritation
N-Aminoethylpiperazine	Rabbit	Corrosive

Sensitization:

Skin Sensitisation

Name	Species	Value
Bis(3-Aminopropyl) Ether of Diethylene Glycol	Professional judgement	Sensitising
Aluminium	Guinea pig	Not classified
Methylenedi(cyclohexylamine)	Guinea pig	Sensitising
2-Propenenitrile, Polymer with 1,3-Butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated	Guinea pig	Sensitising
Treated Inorganic Filler	Human and animal	Not classified
Mineral Filler	Human	Not classified
2,4,6-Tris(dimethylaminomonomethyl)phenol	Guinea pig	Not classified
m-Xylene-.alpha.alpha'.Diamine	Guinea pig	Sensitising
Formaldehyde, Polymer with Benzenamine, Hydrogenated	Professional judgement	Sensitising
N-Aminoethylpiperazine	Guinea pig	Sensitising

Respiratory Sensitisation

Name	Species	Value
Aluminium	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Bis(3-Aminopropyl) Ether of Diethylene Glycol	In Vitro	Not mutagenic
Aluminium	In Vitro	Not mutagenic
Treated Inorganic Filler	In Vitro	Not mutagenic
Mineral Filler	In Vitro	Not mutagenic
Mineral Filler	In vivo	Not mutagenic
2,4,6-Tris(dimethylaminomonomethyl)phenol	In Vitro	Not mutagenic
m-Xylene-.alpha.alpha'.Diamine	In Vitro	Not mutagenic
m-Xylene-.alpha.alpha'.Diamine	In vivo	Not mutagenic
Formaldehyde, Polymer with Benzenamine, Hydrogenated	In Vitro	Not mutagenic
Inorganic Filler	In Vitro	Some positive data exist, but the data are not sufficient for classification
N-Aminoethylpiperazine	In vivo	Not mutagenic
N-Aminoethylpiperazine	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz	In vivo	Some positive data exist, but the data are not

		sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Treated Inorganic Filler	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Inorganic Filler	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Quartz	Inhalation	Human and animal	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Bis(3-Aminopropyl) Ether of Diethylene Glycol	Ingestion	Not classified for female reproduction	Rat	NOAEL 600 mg/kg/day	premating into lactation
Bis(3-Aminopropyl) Ether of Diethylene Glycol	Ingestion	Not classified for male reproduction	Rat	NOAEL 600 mg/kg/day	59 days
Bis(3-Aminopropyl) Ether of Diethylene Glycol	Ingestion	Not classified for development	Rat	NOAEL 600 mg/kg/day	premating into lactation
Treated Inorganic Filler	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Treated Inorganic Filler	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Treated Inorganic Filler	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Treated Filler	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	premating & during gestation
Mineral Filler	Ingestion	Not classified for development	Multiple animal species	NOAEL 1,600 mg/kg/day	during organogenesis
2,4,6-Tris(dimethylaminomonomethyl)phenol	Ingestion	Not classified for male reproduction	Rat	NOAEL 150 mg/kg/day	2 generation
2,4,6-Tris(dimethylaminomonomethyl)phenol	Ingestion	Not classified for female reproduction	Rat	NOAEL 50 mg/kg/day	2 generation
2,4,6-Tris(dimethylaminomonomethyl)phenol	Ingestion	Not classified for development	Rabbit	NOAEL 15 mg/kg/day	during gestation
m-Xylene-.alpha.alpha'.Diamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 450 mg/kg/day	1 generation
m-Xylene-.alpha.alpha'.Diamine	Ingestion	Not classified for male reproduction	Rat	NOAEL 450 mg/kg	1 generation
m-Xylene-.alpha.alpha'.Diamine	Ingestion	Not classified for development	Rat	NOAEL 450 mg/kg/day	1 generation
Formaldehyde, Polymer with Benzenamine, Hydrogenated	Ingestion	Not classified for female reproduction	Rat	NOAEL 140 mg/kg/day	premating into lactation
Formaldehyde, Polymer with Benzenamine, Hydrogenated	Ingestion	Not classified for male reproduction	Rat	NOAEL 140 mg/kg/day	28 days
Formaldehyde, Polymer with Benzenamine, Hydrogenated	Ingestion	Not classified for development	Rat	NOAEL 280 mg/kg/day	during gestation
N-Aminoethylpiperazine	Ingestion	Not classified for female reproduction	Rat	NOAEL 598 mg/kg/day	premating & during gestation
N-Aminoethylpiperazine	Ingestion	Not classified for male reproduction	Rat	NOAEL 409 mg/kg/day	32 days
N-Aminoethylpiperazine	Ingestion	Toxic to development	Rabbit	NOAEL 75 mg/kg/day	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Bis(3-Aminopropyl) Ether of Diethylene Glycol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Methylenedi(cyclohexylamine)	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available	
2-Propenenitrile, Polymer with 1,3-Butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
Treated Filler	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes
2,4,6-Tris(dimethylaminomonomethyl)phenol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
m-Xylene-.alpha.alpha'.Diamine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Not available	NOAEL Not avaliable	
Formaldehyde, Polymer with Benzenamine, Hydrogenated	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
N-Aminoethylpiperazine	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
Bis(3-Aminopropyl) Ether of Diethylene Glycol	Ingestion	gastrointestinal tract | heart | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | muscles | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 600 mg/kg/day	59 days
Aluminium	Inhalation	nervous system | respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Methylenedi(cyclohexylamine)	Ingestion	liver | muscles	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 15 mg/kg/day	36 days
Treated Inorganic Filler	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Treated Filler	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Mineral Filler	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Mineral Filler	Inhalation	pulmonary fibrosis	Not classified	Human and animal	NOAEL Not available	
Mineral Filler	Ingestion	liver | kidney and/or bladder | hematopoietic system	Not classified	Rat	NOAEL 2,500 mg/kg/day	2 years
2,4,6-Tris(dimethylaminomonomethyl)phenol	Dermal	skin	Not classified	Rat	NOAEL 25 mg/kg/day	4 weeks

2,4,6-Tris(dimethylaminomonomethyl)phenol	Dermal	liver | nervous system | auditory system | hematopoietic system | eyes	Not classified	Rat	NOAEL 125 mg/kg/day	4 weeks
2,4,6-Tris(dimethylaminomonomethyl)phenol	Ingestion	heart | endocrine system | hematopoietic system | liver | muscles | nervous system | kidney and/or bladder | respiratory system | vascular system | auditory system | skin | gastrointestinal tract | bone, teeth, nails, and/or hair | immune system | eyes	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
m-Xylene-.alpha.alpha'.Diamine	Ingestion	endocrine system | blood | bone marrow	Not classified	Rat	NOAEL 600 mg/kg/day	28 days
Formaldehyde, Polymer with Benzenamine, Hydrogenated	Ingestion	kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 15 mg/kg/day	28 days
Formaldehyde, Polymer with Benzenamine, Hydrogenated	Ingestion	endocrine system | hematopoietic system | liver | nervous system	Not classified	Rat	NOAEL 300 mg/kg/day	28 days
Inorganic Filler	Inhalation	respiratory system	Not classified	Human	NOAEL not available	occupational exposure
N-Aminoethylpiperazine	Dermal	skin	Not classified	Rat	NOAEL 100 mg/kg/day	29 days
N-Aminoethylpiperazine	Dermal	hematopoietic system | nervous system | kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	29 days
N-Aminoethylpiperazine	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.2 mg/m3	13 weeks
N-Aminoethylpiperazine	Inhalation	hematopoietic system | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 53.8 mg/m3	13 weeks
N-Aminoethylpiperazine	Ingestion	heart | endocrine system | hematopoietic system | liver | nervous system | kidney and/or bladder	Not classified	Rat	NOAEL 598 mg/kg/day	28 days
Quartz	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

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 3: Harmful 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
Bis(3-Aminopropyl) Ether of Diethylene Glycol	4246-51-9	Bacteria	Experimental	17 hours	EC50	4,000 mg/l
Bis(3-Aminopropyl) Ether of Diethylene Glycol	4246-51-9	Golden Orfe	Experimental	96 hours	LC50	>1,000 mg/l
Bis(3-Aminopropyl) Ether of Diethylene Glycol	4246-51-9	Green algae	Experimental	72 hours	EC50	>500 mg/l
Bis(3-Aminopropyl) Ether of Diethylene Glycol	4246-51-9	Water flea	Experimental	48 hours	EC50	218.16 mg/l
Bis(3-Aminopropyl) Ether of Diethylene Glycol	4246-51-9	Green algae	Experimental	72 hours	EC10	5.4 mg/l
Epoxy Copolymer	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Acrylic copolymer	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
2-Propenenitrile, Polymer with 1,3-Butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated	68683-29-4	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Aluminium	7429-90-5	Fish	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Aluminium	7429-90-5	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Aluminium	7429-90-5	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Aluminium	7429-90-5	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	100 mg/l
Aluminium	7429-90-5	Water flea	Experimental	21 days	NOEC	0.076 mg/l
Methylenedi(cyclohexylamine)	1761-71-3	Golden Orfe	Experimental	96 hours	LC50	>100 mg/l
Methylenedi(cyclohexylamine)	1761-71-3	Green algae	Experimental	72 hours	EC50	140 mg/l
Methylenedi(cyclohexylamine)	1761-71-3	Water flea	Experimental	48 hours	EC50	7.07 mg/l
Methylenedi(cyclo	1761-71-3	Water flea	Analogous	21 days	NOEC	4 mg/l

hexylamine)			Compound			
Methylenedi(cyclohexylamine)	1761-71-3	Green algae	Experimental	72 hours	EC10	100 mg/l
Methylenedi(cyclohexylamine)	1761-71-3	Redworm	Analogous Compound	56 days	EC10	228 mg/kg (Dry Weight)
Methylenedi(cyclohexylamine)	1761-71-3	Soil microbes	Analogous Compound	28 days	EC10	>1,000 mg/kg (Dry Weight)
Methylenedi(cyclohexylamine)	1761-71-3	Bacteria	Experimental	30 minutes	EC50	156 mg/l
Treated Inorganic Filler	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Inorganic Filler	Trade Secret	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
Inorganic Filler	Trade Secret	Water flea	Experimental	72 hours	EC50	>1,000 mg/l
Inorganic Filler	Trade Secret	Zebra Fish	Experimental	96 hours	LC50	>1,000 mg/l
Inorganic Filler	Trade Secret	Green algae	Experimental	72 hours	NOEC	>=1,000 mg/l
Mineral Filler	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Treated Filler	Trade Secret	Green algae	Estimated	72 hours	EC50	>100 mg/l
Treated Filler	Trade Secret	Rainbow trout	Estimated	96 hours	LC50	>100 mg/l
Treated Filler	Trade Secret	Water flea	Estimated	48 hours	EC50	>100 mg/l
Treated Filler	Trade Secret	Green algae	Estimated	72 hours	EC10	>100 mg/l
2,4,6-Tris(dimethylaminomonomethyl)phenol	90-72-2	N/A	Experimental	96 hours	LC50	718 mg/l
2,4,6-Tris(dimethylaminomonomethyl)phenol	90-72-2	Common Carp	Experimental	96 hours	LC50	>100 mg/l
2,4,6-Tris(dimethylaminomonomethyl)phenol	90-72-2	Green algae	Experimental	72 hours	EC50	46.7 mg/l
2,4,6-Tris(dimethylaminomonomethyl)phenol	90-72-2	Water flea	Experimental	48 hours	EC50	>100 mg/l
2,4,6-Tris(dimethylaminomonomethyl)phenol	90-72-2	Green algae	Experimental	72 hours	NOEC	6.44 mg/l
Formaldehyde, Polymer with Benzenamine, Hydrogenated	135108-88-2	Activated sludge	Experimental	3 hours	EC50	186.7 mg/l
Formaldehyde, Polymer with Benzenamine, Hydrogenated	135108-88-2	Green algae	Experimental	72 hours	EC50	43.94 mg/l
Formaldehyde, Polymer with Benzenamine, Hydrogenated	135108-88-2	Guppy	Experimental	96 hours	LC50	63 mg/l
Formaldehyde, Polymer with Benzenamine, Hydrogenated	135108-88-2	Water flea	Experimental	48 hours	EC50	15.4 mg/l
Formaldehyde, Polymer with Benzenamine, Hydrogenated	135108-88-2	Green algae	Experimental	72 hours	EC10	1.2 mg/l
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	Activated sludge	Experimental	30 minutes	EC50	>1,000 mg/l
m-Xylene-.alpha.alph	1477-55-0	Bacteria	Experimental	16 hours	EC10	24 mg/l

a'.Diamine						
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	Green algae	Experimental	72 hours	ErC50	28 mg/l
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	Medaka	Experimental	96 hours	LC50	87.6 mg/l
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	Water flea	Experimental	48 hours	EC50	15.2 mg/l
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	Green algae	Experimental	72 hours	NOEC	9.8 mg/l
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	Water flea	Experimental	21 days	NOEC	4.7 mg/l
N-Aminoethylpiperazine	140-31-8	Bacteria	Experimental	17 hours	EC10	100 mg/l
N-Aminoethylpiperazine	140-31-8	Golden Orfe	Experimental	96 hours	LC50	368 mg/l
N-Aminoethylpiperazine	140-31-8	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
N-Aminoethylpiperazine	140-31-8	Water flea	Experimental	48 hours	EC50	58 mg/l
N-Aminoethylpiperazine	140-31-8	Green algae	Experimental	72 hours	NOEC	31 mg/l
Quartz	14808-60-7	Green algae	Estimated	72 hours	EC50	440 mg/l
Quartz	14808-60-7	Water flea	Estimated	48 hours	EC50	7,600 mg/l
Quartz	14808-60-7	Zebra Fish	Estimated	96 hours	LC50	5,000 mg/l
Quartz	14808-60-7	Green algae	Estimated	72 hours	NOEC	60 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Bis(3-Aminopropyl) Ether of Diethylene Glycol	4246-51-9	Experimental Biodegradation	25 days	CO2 evolution	-8 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Bis(3-Aminopropyl) Ether of Diethylene Glycol	4246-51-9	Estimated Photolysis		Photolytic half-life (in air)	2.96 hours (t 1/2)	
Epoxy Copolymer	Trade Secret	Data not available-insufficient	N/A	N/A	N/A	N/A
Acrylic copolymer	Trade Secret	Data not available-insufficient	N/A	N/A	N/A	N/A
2-Propenenitrile, Polymer with 1,3-Butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated	68683-29-4	Data not available-insufficient	N/A	N/A	N/A	N/A
Aluminium	7429-90-5	Data not available-	N/A	N/A	N/A	N/A

		insufficient				
Methylenedi(cyclohexylamine)	1761-71-3	Analogous Compound Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301C - MITI test (I)
Methylenedi(cyclohexylamine)	1761-71-3	Analogous Compound Aquatic Inherent Biodegrad.	28 days	Percent degraded	<1 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
Treated Inorganic Filler	Trade Secret	Data not available-insufficient	N/A	N/A	N/A	N/A
Inorganic Filler	Trade Secret	Data not available-insufficient	N/A	N/A	N/A	N/A
Mineral Filler	Trade Secret	Data not available-insufficient	N/A	N/A	N/A	N/A
Treated Filler	Trade Secret	Data not available-insufficient	N/A	N/A	N/A	N/A
2,4,6-Tris(dimethylaminomonomethyl)phenol	90-72-2	Experimental Biodegradation	28 days	BOD	4 %BOD/ThOD	OECD 301D - Closed bottle test
Formaldehyde, Polymer with Benzenamine, Hydrogenated	135108-88-2	Experimental Biodegradation	28 days	BOD	0 %BOD/ThOD	
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	Experimental Biodegradation	28 days	CO2 evolution	49 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	Experimental Aquatic Inherent Biodegrad.	28 days	BOD	22 %BOD/ThOD	OECD 302C - Modified MITI (II)
N-Aminoethylpiperazine	140-31-8	Experimental Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301C - MITI test (I)
Quartz	14808-60-7	Data not available-insufficient	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Bis(3-Aminopropyl) Ether of Diethylene Glycol	4246-51-9	Experimental Bioconcentration		Log Kow	-1.25	
Epoxy Copolymer	Trade Secret	Estimated Bioconcentration		Bioaccumulation factor	2.9	
Acrylic copolymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Propenenitrile, Polymer with 1,3-Butadiene, 1-cyano-1-methyl-4-oxo-4-[[2-(1-piperazinyl)ethyl]amino]butyl-terminated	68683-29-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Aluminium	7429-90-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Methylenedi(cyclohexylamine)	1761-71-3	Analogous Compound BCF - Fish		Bioaccumulation factor	<60	OECD305-Bioconcentration

Methylenedi(cyclohexylamine)	1761-71-3	Experimental Bioconcentration		Log Kow	2.03	OECD 107 log Kow shke flsk mtd
Treated Inorganic Filler	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Inorganic Filler	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Mineral Filler	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Treated Filler	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2,4,6-Tris(dimethylaminomonomethyl)phenol	90-72-2	Experimental Bioconcentration		Log Kow	-0.66	830.7550 Part.Coef Shake Flask
Formaldehyde, Polymer with Benzenamine, Hydrogenated	135108-88-2	Experimental BCF - Fish	56 days	Bioaccumulation factor	≤ 219	OECD305-Bioconcentration
Formaldehyde, Polymer with Benzenamine, Hydrogenated	135108-88-2	Experimental Bioconcentration		Log Kow	2.68	EC A.8 Partition Coefficient
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	Experimental BCF - Fish	42 days	Bioaccumulation factor	<2.7	OECD305-Bioconcentration
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	Extrapolated		Log Kow	0.18	OECD 107 log Kow shke flsk mtd
N-Aminoethylpiperazine	140-31-8	Experimental Bioconcentration		Log Kow	0.3	
Quartz	14808-60-7	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 waste product in a permitted industrial waste facility. 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 UN2735
Proper Shipping Name AMINES, LIQUID, CORROSIVE, N.O.S. (BIS(3-AMINOPROPYL) ETHER OF

DIETHYLENE GLYCOL AND METHYLENEDI(CYCLOHEXYLAMINE))
Hazard Classs/Division 8
Subsidiary Risk Not applicable
Packing Group: II

Marine Transport (IMDG)
UN No Not applicable
Proper Shipping Name Not applicable (BIS(3-AMINOPROPYL) ETHER OF DIETHYLENE GLYCOL AND METHYLENEDI(CYCLOHEXYLAMINE))
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. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. 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. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. 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
Central Motor Vehicle Rules, 1989

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
Aluminium

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 toxic

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:
Section 14: Packing group (IMO) information was added.
Company Telephone information was modified.
Section 1: Emergency telephone information was modified.
Section 1: Product name information was modified.
Label: GHS Classification information was modified.

Label: GHS Environmental Hazard Statements information was modified.
Label: GHS Precautionary - General information was modified.
Label: GHS Precautionary - Prevention information was modified.
Label: GHS Precautionary - Response information was modified.
Label: GHS Target Organ Hazard Statement information was modified.
Label: Graphic information was modified.
Label: Signal Word information was modified.
Label: Symbol information was modified.
Section 2: Ingredient table information was modified.
Section 04: First Aid - Symptoms and Effects (GHS) information was added.
Section 04: Information on toxicological effects information was deleted.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 6: Accidental release clean-up information information was modified.
Section 7: Precautions safe handling information information was modified.
Section 8: Appropriate Engineering controls information information was modified.
Section 8: Occupational exposure limit table information was modified.
Section 8: Personal Protection - Skin/body information information was modified.
Section 8: Respiratory protection - recommended respirators information information was modified.
Section 8: Skin protection - protective clothing information information was modified.
Section 8: Skin protection - recommended gloves information information was modified.
Section 09: Color information was added.
Section 9: Density information information was modified.
Section 9: Flammability (solid, gas) information information was deleted.
Section 09: Flammability information information was added.
Section 9: Flammable limits (LEL) information information was added.
Section 9: Flammable limits (UEL) information information was added.
Section 09: Kinematic Viscosity information information was added.
Section 09: Odor information was added.
Sections 3 and 9: Odour, colour, grade information information was deleted.
Section 09: Particle Characteristics N/A information was added.
Section 09: Percent Volatile information was added.
Section 9: Property description for optional properties information was added.
Section 9: Property description for optional properties information was deleted.
Section 9: Relative density information information was modified.
Section 09: Solubility as text (non-water) information was added.
Section 9: Solubility in water text information was added.
Section 09: Vapor Density Text information was added.
Section 9: Viscosity information information was deleted.
Section 09: VOC Less H2O & Exempt Solvents information was added.
Section 09: Volatile Organic Compounds information was added.
Section 11: Acute Toxicity table information was modified.
Section 11: Cancer Hazards information information was added.
Section 11: Carcinogenicity Table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 11: Health Effects - Skin information information was modified.
Section 11: Prolonged or repeated exposure may cause standard phrases information was modified.
Section 11: Reproductive Hazards information information was added.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was modified.
Section 12: Chronic aquatic hazard information information was modified.
Section 12: Component ecotoxicity information information was modified.

Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 13: 13.1. Waste disposal note information was modified.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 14: Environmental hazards information was added.
Section 14: IMO Subsidiary Risk information was added.
Section 14: IMO transport hazard classes information was added.
Section 14: Proper Shipping Name (IMO) information was added.
Section 14: UN Number (IMO) information was added.
Section 15: Applicable Environmental, Health and Safety Regulations information was modified.
Section 15: Regulations - Inventories information was modified.
Sectio 16: UK disclaimer information was deleted.

DISCLAIMER: The information in this Safety Data Sheet (SDS) 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 SDS or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own evaluation to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into India, you are responsible to comply with all applicable regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration/notification.

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

Safety Data Sheet

Document group:	33-5988-2	**Version number:**	1.01
Issue Date:	23/07/2018	**Supersedes date:**	11/09/2017

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™ Impact Resistant Structural Adhesive (Part B) PNs 07333, 57333

Product Identification Numbers
LB-K100-1574-0 LB-K100-1574-1

1.2. Recommended use and restrictions on use

Recommended use
Automotive., Base side of two-part color changing adhesive with optimized shear, peel and impact performance.

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 2A
Skin Corrosion/Irritation: Category 3.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 2.
Carcinogenicity: Category 2.
Acute Aquatic Toxicity: Category 1.
Chronic Aquatic Toxicity: Category 2.

2.2. Label elements

Signal Word
WARNING!

Symbols
Exclamation mark | Health Hazard |Environment |

Pictograms

HAZARD STATEMENTS:

H319	Causes serious eye irritation.
H316	Causes mild skin irritation.
H317	May cause an allergic skin reaction.
H361	Suspected of damaging fertility or the unborn child.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

General:

P102	Keep out of reach of children.
P101	If medical advice is needed, have product container or label at hand.

Prevention:

P280E	Wear protective gloves.
P273	Avoid release to the environment.

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.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P370 + P378G	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:

P405	Store locked up.

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
4,4'-Isopropylidenediphenol-	25068-38-6	60 - 100

Epichlorohydrin Polymer		
Synthetic Rubber (04499600-7202)	Trade Secret	4 - 20
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	2530-83-8	1 - 5
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	14228-73-0	1 - 5
Benzoic Acid, C9-C11-Branched Alkyl Esters	131298-44-7	1 - 5
Inorganic Filler (04499600-7205)	Trade Secret	1 - 5
Treated Filler (04499600-7203)	Trade Secret	1 - 5
Treated Inorganic Filler (04499600-7204)	Trade Secret	1 - 5
Phenolphthalein	77-09-8	< 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. Remove contact lenses if easy to do. Continue rinsing. 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.

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. 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
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. 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 vapours created during the cure cycle. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. 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 acids. Store away from oxidising agents.

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
Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. 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

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.
Appearance/Odour	Silver Grey Thick Paste (Very Slight Acrylic Smell)
Odour threshold	*No data available.*
pH	*No data available.*
Melting point/Freezing point: NA	*No data available.*
Boiling point/Initial boiling point/Boiling range	35 ºC
Flash point	103.9 ºC [*Test Method:*Closed Cup]
Evaporation rate	*No data available.*
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	666.6 Pa
Vapour density	*No data available.*
Density	1.138 g/ml
Relative density	1.138 [*Ref Std:*WATER=1]
Water solubility	*No data available.*
Water solubility	*No data available.*
Solubility- non-water	*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	100,000 - 500,000 mPa-s
Molecular weight	*No data available.*
Volatile organic compounds (VOC)	1.6 % weight
Volatile organic compounds (VOC)	19 g/l
Percent volatile	1.7 % weight
VOC less H2O & exempt solvents	19 g/l

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.
Sparks and/or flames.

10.5 Incompatible materials
Strong acids.
Strong oxidising agents.

10.6 Hazardous decomposition products

Substance	Condition
Aldehydes.	Not specified.
Carbon monoxide.	Not specified.
Carbon dioxide.	Not specified.

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.

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
Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

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

Additional Health Effects:

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

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

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	Rat	LD50 > 1,600 mg/kg
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Rat	LD50 > 1,000 mg/kg
Treated Filler (04499600-7203)	Dermal	Rat	LD50 > 2,000 mg/kg
Treated Filler (04499600-7203)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
Treated Filler (04499600-7203)	Ingestion	Rat	LD50 6,450 mg/kg
Treated Inorganic Filler (04499600-7204)	Dermal	Rabbit	LD50 > 5,000 mg/kg
Treated Inorganic Filler (04499600-7204)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Treated Inorganic Filler (04499600-7204)	Ingestion	Rat	LD50 > 5,110 mg/kg
Benzoic Acid, C9-C11-Branched Alkyl Esters	Dermal	Rabbit	LD50 > 2,000 mg/kg
Benzoic Acid, C9-C11-Branched Alkyl Esters	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5 mg/l
Benzoic Acid, C9-C11-Branched Alkyl Esters	Ingestion	Rat	LD50 > 5,000 mg/kg
Inorganic Filler (04499600-7205)	Dermal	Rabbit	LD50 > 5,000 mg/kg
Inorganic Filler (04499600-7205)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Inorganic Filler (04499600-7205)	Ingestion	Rat	LD50 > 5,110 mg/kg
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Dermal	Rabbit	LD50 4,000 mg/kg
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.3 mg/l
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Ingestion	Rat	LD50 7,010 mg/kg
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	Dermal	Rabbit	LD50 2,500 mg/kg
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	Ingestion	Rat	LD50 2,450 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Rabbit	Mild irritant
Treated Filler (04499600-7203)	Rabbit	No significant irritation
Treated Inorganic Filler (04499600-7204)	Rabbit	No significant irritation
Inorganic Filler (04499600-7205)	Rabbit	No significant irritation
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Rabbit	Mild irritant
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	Professional judgement	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Rabbit	Moderate irritant
Treated Filler (04499600-7203)	Rabbit	No significant irritation
Treated Inorganic Filler (04499600-7204)	Rabbit	No significant irritation
Inorganic Filler (04499600-7205)	Rabbit	No significant irritation
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Rabbit	Corrosive

1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	Professional judgement	Mild irritant

Skin Sensitisation

Name	Species	Value
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Human and animal	Sensitising
Treated Inorganic Filler (04499600-7204)	Human and animal	Not classified
Inorganic Filler (04499600-7205)	Human and animal	Not classified
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Guinea pig	Not classified
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	similar compounds	Sensitising

Respiratory Sensitisation

Name	Species	Value
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	In vivo	Not mutagenic
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	In Vitro	Some positive data exist, but the data are not sufficient for classification
Treated Inorganic Filler (04499600-7204)	In Vitro	Not mutagenic
Inorganic Filler (04499600-7205)	In Vitro	Not mutagenic
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	In vivo	Not mutagenic
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Treated Inorganic Filler (04499600-7204)	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Inorganic Filler (04499600-7205)	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Dermal	Mouse	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Treated Filler (04499600-7203)	Ingestion	Not classified for development	Rat	NOAEL 625	premating &

				mg/kg/day	during gestation
Treated Inorganic Filler (04499600-7204)	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Treated Inorganic Filler (04499600-7204)	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Treated Inorganic Filler (04499600-7204)	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Inorganic Filler (04499600-7205)	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Inorganic Filler (04499600-7205)	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Inorganic Filler (04499600-7205)	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Ingestion	Not classified for development	Rat	NOAEL 3,000 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
Treated Filler (04499600-7203)	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	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
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	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
Treated Filler (04499600-7203)	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Treated Inorganic Filler (04499600-7204)	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Inorganic Filler (04499600-7205)	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	Ingestion	heart | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | nervous system |	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

		kidney and/or bladder | respiratory system				

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
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Water flea	Estimated	48 hours	LC50	0.95 mg/l
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Green Algae	Experimental	72 hours	EC50	>11 mg/l
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Rainbow trout	Experimental	96 hours	LC50	1.2 mg/l
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Green Algae	Experimental	72 hours	NOEC	4.2 mg/l
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Water flea	Experimental	21 days	NOEC	0.3 mg/l
Synthetic	Trade Secret		Data not			

Rubber (04499600-7202)			available or insufficient for classification			
[3-(2,3-epoxypropoxy) propyl]trimethoxysilane	2530-83-8	Common Carp	Experimental	96 hours	LC50	55 mg/l
[3-(2,3-epoxypropoxy) propyl]trimethoxysilane	2530-83-8	Crustacea other	Experimental	48 hours	LC50	324 mg/l
[3-(2,3-epoxypropoxy) propyl]trimethoxysilane	2530-83-8	Green algae	Experimental	96 hours	EC50	350 mg/l
[3-(2,3-epoxypropoxy) propyl]trimethoxysilane	2530-83-8	Green Algae	Experimental	96 hours	NOEC	130 mg/l
[3-(2,3-epoxypropoxy) propyl]trimethoxysilane	2530-83-8	Water flea	Experimental	21 days	NOEC	>=100 mg/l
1,4-Bis[(2,3-Epoxypropoxy) Methyl]Cyclohexane	14228-73-0	Green algae	Estimated	72 hours	EC50	26.7 mg/l
1,4-Bis[(2,3-Epoxypropoxy) Methyl]Cyclohexane	14228-73-0	Rainbow trout	Estimated	96 hours	LC50	10.1 mg/l
1,4-Bis[(2,3-Epoxypropoxy) Methyl]Cyclohexane	14228-73-0	Water flea	Estimated	48 hours	EC50	16.3 mg/l
1,4-Bis[(2,3-Epoxypropoxy) Methyl]Cyclohexane	14228-73-0	Green algae	Estimated	72 hours	Effect Concentration 10%	21.4 mg/l
1,4-Bis[(2,3-Epoxypropoxy) Methyl]Cyclohexane	14228-73-0	Water flea	Estimated	21 days	NOEC	11.7 mg/l
Benzoic Acid, C9-C11-Branched Alkyl Esters	131298-44-7		Data not available or insufficient for classification			
Inorganic Filler (04499600-7205)	Trade Secret		Data not available or insufficient for classification			
Treated Filler (04499600-7203)	Trade Secret	Green algae	Estimated	72 hours	EC50	>100 mg/l
Treated Filler	Trade Secret	Rainbow trout	Estimated	96 hours	LC50	>100 mg/l

(04499600-7203)						
Treated Filler (04499600-7203)	Trade Secret	Water flea	Estimated	48 hours	EC50	>100 mg/l
Treated Filler (04499600-7203)	Trade Secret	Green algae	Estimated	72 hours	Effect Concentration 10%	>100 mg/l
Treated Inorganic Filler (04499600-7204)	Trade Secret		Data not available or insufficient for classification			
Phenolphthalein	77-09-8	Green algae	Experimental	72 hours	EC50	8.9 mg/l
Phenolphthalein	77-09-8	Water flea	Experimental	48 hours	EC50	6.72 mg/l
Phenolphthalein	77-09-8	Green algae	Experimental	72 hours	Effect Concentration 10%	1.9 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
4,4'-Isopropylidene diphenol-Epichlorohydrin Polymer	25068-38-6	Estimated Hydrolysis		Hydrolytic half-life	<2 days (t 1/2)	Other methods
4,4'-Isopropylidene diphenol-Epichlorohydrin Polymer	25068-38-6	Experimental Biodegradation	28 days	BOD	0 % BOD/ThBOD	OECD 301C - MITI test (I)
Synthetic Rubber (04499600-7202)	Trade Secret	Data not available-insufficient			N/A	
[3-(2,3-epoxypropoxy) propyl]trimethoxysilane	2530-83-8	Experimental Hydrolysis		Hydrolytic half-life	6.5 hours (t 1/2)	Other methods
[3-(2,3-epoxypropoxy) propyl]trimethoxysilane	2530-83-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	37 % weight	Other methods
1,4-Bis[(2,3-Epoxypropoxy) Methyl]Cyclohexane	14228-73-0	Estimated Biodegradation	28 days	Dissolv. Organic Carbon Deplet	16.6 %removal of DOC	OECD 301F - Manometric respirometry
Benzoic Acid, C9-C11-Branched Alkyl Esters	131298-44-7	Data not available-insufficient			N/A	
Inorganic Filler (04499600-	Trade Secret	Data not available-			N/A	

7205)		insufficient				
Treated Filler (04499600-7203)	Trade Secret	Data not available-insufficient			N/A	
Treated Inorganic Filler (04499600-7204)	Trade Secret	Data not available-insufficient			N/A	
Phenolphthalein	77-09-8	Experimental Biodegradation	28 days	BOD	76 % BOD/ThBOD	OECD 301F - Manometric respirometry

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Experimental BCF-Carp	28 days	Bioaccumulation factor	<=42	OECD 305E - Bioaccumulation flow-through fish test
Synthetic Rubber (04499600-7202)	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
[3-(2,3-epoxypropoxy) propyl]trimethoxysilane	2530-83-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
1,4-Bis[(2,3-Epoxypropoxy) Methyl]Cyclohexane	14228-73-0	Estimated Bioconcentration		Bioaccumulation factor	3	Estimated: Bioconcentration factor
Benzoic Acid, C9-C11-Branched Alkyl Esters	131298-44-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Inorganic Filler (04499600-7205)	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Treated Filler (04499600-7203)	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Treated Inorganic Filler (04499600-7204)	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Phenolphthalein	77-09-8	Experimental Bioconcentration		Log Kow	0.9	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. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional 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 material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Industrial Safety and Health Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. 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. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory.

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:
Section 14: Packing group (IMO) information was added.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 09: Decomposition Temperature information was added.
Section 09: Melting point/Freezing point information was added.
Section 9: Flammable limits (LEL) information information was added.
Section 9: Flammable limits (UEL) information information was added.
Section 9: Odour Threshold information was added.
Section 9: Property description for optional properties information was modified.
Section 9: Solubility (non-water) information was added.
Section 09: Solubility as text (non-water) information was added.
Section 9: Solubility in water text information was added.
Section 9: Solubility in water value information was added.
Section 9: Vapor density text information was added.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 13: 13.1. Waste disposal note information was modified.
Section 14: Environmental hazards information was added.
Section 14: IMO Subsidiary Risk information was added.
Section 14: IMO transport hazard classes information was added.
Section 14: Proper Shipping Name (IMO) information was added.
Section 14: UN Number (IMO) information was added.

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