Safety Data Sheet

Document group:	33-5983-3	**Version number:**	4.01
Issue Date:	01/11/2022	**Supersedes date:**	19/06/2022

This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances (Safety Data Sheets) Notice 2017.

IDENTIFICATION:

1.1. Product identifier
3M™ Impact Resistant Structural Adhesive PNs 07333, 57333

Product Identification Numbers
60-4550-8333-1 60-4551-1451-6

1.2. Recommended use and restrictions on use

Recommended use
Automotive., Two-part colour changing adhesive with optimized shear, peel and impact performance.

1.3. Supplier's details

Address:	3M New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland
Telephone:	(09) 477 4040
E Mail:	innovation@nz.mmm.com
Website:	3m.co.nz

1.4. Emergency telephone number
24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

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 SDSs for components of this product are:

33-5984-1, 33-5988-2

One or more components of this KIT is classified as a hazardous substance in accordance with the relevant criteria of the HSNO Act 1996 and the Hazardous Substances (Hazard Classification) Notice 2020.

TRANSPORT INFORMATION

The Dangerous Goods Classification for the complete Kit is provided below.

UN No.:UN2735
Proper shipping name:AMINES, LIQUID, CORROSIVE, N.O.S., (Bis(3-Aminopropyl) Ether of Diethylene Glycol, Methylenedi(Cyclohexylamine)

Class/Division:8
Packing Group:II
Marine Pollutant: Not applicable.

Hazchem Code:2X
IERG:36

Land Transport Rule: Dangerous Goods - Road/Rail Transport
Special Instructions: Limited quantity may apply

International Maritime Dangerous Goods Code (IMDG) - Marine Transport
Special Instructions: Limited quantity may apply

Revision information:
Complete document review.

The information in this Safety Data Sheet (SDS) is believed to be correct as of the date of issue. TO THE EXTENT PERMITTED BY LAW, 3M MAKES NO WARRANTY, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluates the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application. 3M provides information in electronic form as a service to customers. Due to the remote possibility of electronic transfer may have resulted in errors, omissions or alterations in this information; 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M.

3M New Zealand SDS are available at 3M New Zealand Website: http://solutions.3mnz.co.nz

Safety Data Sheet

Document group:	33-5988-2	**Version number:**	3.00
Issue Date:	04/07/2021	**Supersedes date:**	13/09/2020

This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances (Safety Data Sheets) Notice 2017.

SECTION 1: Identification

1.1. Product identifier
3M™ Impact Resistant Structural Adhesive (Part B) PNs 07333, 57333

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.

For Industrial or Professional use only

1.3. Supplier's details

Address:	3M New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland
Telephone:	(09) 477 4040
E Mail:	innovation@nz.mmm.com
Website:	3m.co.nz

1.4. Emergency telephone number
24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

SECTION 2: Hazard identification

Classified as hazardous in accordance with the relevant criteria of the HSNO Act 1996 and the Hazardous Substances (Hazard Classification) Notice 2020.
Refer to Section 14 of this Safety Data Sheet for product Dangerous Goods Classification.

2.1. Classification of the substance or mixture
Serious Eye Damage/Irritation: Category 2
Skin Sensitiser: Category 1
Germ Cell Mutagenicity: Category 2
Carcinogenicity: Category 2
Reproductive Toxicity: Category 2
Chronic Aquatic Toxicity: Category 2

2.2. Label elements
SIGNAL WORD
Warning

Symbols:
Exclamation mark |Health Hazard |

Pictograms

HAZARD STATEMENTS:

H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
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.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280F	Wear respiratory protection.

Response

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313	IF eye irritation persists: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.

Storage

P405	Store locked up.

Disposal

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

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	% by Weight
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	70 - 90

Synthetic Rubber	Trade Secret	4 - 20
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	14228-73-0	1 - 5
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	1 - 5
Benzoic Acid, C9-C11-Branched Alkyl Esters	131298-44-7	1 - 5
Inorganic Filler	Trade Secret	1 - 5
Treated Filler	Trade Secret	1 - 5
Treated Inorganic Filler	Trade Secret	1 - 5
Phenolphthalein	77-09-8	0.1 - 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.
A product risk assessment is recommended to determine if eye wash facilities may be required when using this product in the workplace.

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

4.2. Most important symptoms and effects, both acute and delayed
No critical symptoms or effects. 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.
Hydrogen Chloride	During combustion.

5.3. Special protective actions for fire-fighters
When fire fighting conditions are severe and total thermal decomposition of the product is possible, wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus,tunic and trousers (leggings),bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

5.4. Hazchem code: 3Z

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. 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

Refer to Section 15 - Controls for more information

7.1. Precautions for safe handling
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.

7.3. Certified handler
Not required

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
Treated Filler	Trade Secret	New Zealand WES	TWA(8 hours):10 ppm	

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

ppm: parts per million
mg/m^3: milligrams per cubic metre
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:
Indirect vented goggles.

Refer AS/NZS 1336 - Recommended practices for occupational eye protection and for performance specifications AS/NZS 1337, Parts 1 - 6 - Personal eye-protection.

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

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 - 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 vapors and particulates

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

Refer AS/NZS 1715 - Selection, use and maintenance of respiratory protective equipment and AS/NZS 1716 - Respiratory protective devices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Colour	Silver-Grey
Odour	Very Slight Acrylic
Odour threshold	*No data available.*
pH	*No data available.*
Melting point/Freezing point	*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
Vapor Density and/or Relative Vapor Density	*No data available.*
Density	1.132 g/ml
Relative density	1.132 [*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/Kinematic Viscosity	100,000 mPa-s - 500,000 mPa-s
Volatile organic compounds (VOC)	0.1 % weight [*Details:*calculated per CARB title 2]
Volatile organic compounds (VOC)	1 g/l [*Details:*calculated per SCAQMD 443.1]
Percent volatile	0.1 % weight
VOC less H2O & exempt solvents	1 g/l [*Details:*calculated per SCAQMD 443.1]
Molecular weight	*No data available.*

Nanoparticles
This material contains nanoparticles.

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**
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 be harmful if inhaled. 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
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. May cause additional health effects (see below).

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.

Genotoxicity:
Genotoxicity and Mutagenicity: May interact with genetic material and possibly alter gene expression.

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	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE5 - 12.5 mg/l
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	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

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 > 2 mg/l
Benzoic Acid, C9-C11-Branched Alkyl Esters	Ingestion	Rat	LD50 > 5,000 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
Inorganic Filler	Dermal	Rabbit	LD50 > 5,000 mg/kg
Inorganic Filler	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Inorganic Filler	Ingestion	Rat	LD50 > 5,110 mg/kg
3-(Trimethoxysilyl)Propyl Glycidyl Ether	Dermal	Rabbit	LD50 4,000 mg/kg
3-(Trimethoxysilyl)Propyl Glycidyl Ether	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.3 mg/l
3-(Trimethoxysilyl)Propyl Glycidyl Ether	Ingestion	Rat	LD50 7,010 mg/kg
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	Ingestion	Rat	LD50 1,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Rabbit	Mild irritant
Treated Filler	Rabbit	No significant irritation
Treated Inorganic Filler	Rabbit	No significant irritation
Inorganic Filler	Rabbit	No significant irritation
3-(Trimethoxysilyl)Propyl Glycidyl Ether	Rabbit	Mild irritant
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	In vitro data	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Rabbit	Moderate irritant
Treated Filler	Rabbit	No significant irritation
Treated Inorganic Filler	Rabbit	No significant irritation
Inorganic Filler	Rabbit	No significant irritation
3-(Trimethoxysilyl)Propyl Glycidyl Ether	Rabbit	Corrosive
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	In vitro data	No significant irritation

Sensitisation:

Skin Sensitisation

Name	Species	Value
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	Human and animal	Sensitising
Treated Inorganic Filler	Human and animal	Not classified
Inorganic Filler	Human and animal	Not classified
3-(Trimethoxysilyl)Propyl Glycidyl Ether	Guinea pig	Not classified
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	similar compoun	Sensitising

	ds	

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	In Vitro	Not mutagenic
Inorganic Filler	In Vitro	Not mutagenic
3-(Trimethoxysilyl)Propyl Glycidyl Ether	In vivo	Not mutagenic
3-(Trimethoxysilyl)Propyl Glycidyl Ether	In Vitro	Some positive data exist, but the data are not sufficient for classification
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	In Vitro	Mutagenic; structurally related to germ cell mutagens

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	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Inorganic Filler	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
3-(Trimethoxysilyl)Propyl Glycidyl Ether	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	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	premating & during gestation
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
Inorganic Filler	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Inorganic Filler	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Inorganic Filler	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
3-(Trimethoxysilyl)Propyl Glycidyl Ether	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation

3-(Trimethoxysilyl)Propyl Glycidyl Ether	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(Trimethoxysilyl)Propyl Glycidyl Ether	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	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	similar health hazards	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	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Treated Inorganic Filler	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Inorganic Filler	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
3-(Trimethoxysilyl)Propyl Glycidyl Ether	Ingestion	heart | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | nervous system | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

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
Ecotoxic to the aquatic environment.
Acute Aquatic Toxicity: Category 2 (HSNO 9.1D Aquatic toxicity)
Chronic Aquatic Toxicity: Category 2 (HSNO 9.1B Aquatic toxicity)

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Activated sludge	Estimated	3 hours	IC50	>100 mg/l
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Green Algae	Estimated	72 hours	EC50	>11 mg/l
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Rainbow trout	Estimated	96 hours	LC50	2 mg/l
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Water flea	Estimated	48 hours	EC50	1.8 mg/l
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Green Algae	Estimated	72 hours	NOEC	4.2 mg/l
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Water flea	Estimated	21 days	NOEC	0.3 mg/l
Synthetic Rubber	Trade Secret		Data not available or insufficient for classification			N/A
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	14228-73-0	Bacteria	Estimated	18 hours	EC50	10,264 mg/l
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	14228-73-0		Experimental	72 hours	EC50	38 mg/l
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cycloh	14228-73-0	Water flea	Experimental	48 hours	EC50	71 mg/l

exane						
1,4-Bis[(2,3-Epoxypropoxy) Methyl]Cyclohexane	14228-73-0		Experimental	72 hours	EC10	18 mg/l
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Bacteria	Experimental	5 hours	EC10	1,520 mg/l
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Common Carp	Experimental	96 hours	LC50	55 mg/l
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Crustecea other	Experimental	48 hours	LC50	324 mg/l
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Green algae	Experimental	96 hours	EC50	350 mg/l
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Green Algae	Experimental	96 hours	NOEC	130 mg/l
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Water flea	Experimental	21 days	NOEC	>=100 mg/l
Benzoic Acid, C9-C11-Branched Alkyl Esters	131298-44-7	Activated sludge	Experimental	3 hours	EC50	>100 mg/l
Benzoic Acid, C9-C11-Branched Alkyl Esters	131298-44-7		Data not available or insufficient for classification			N/A
Inorganic Filler	Trade Secret		Data not available or insufficient for classification			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
Treated Inorganic Filler	Trade Secret		Data not available or insufficient for classification			N/A
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	EC10	1.9 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Estimated Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	Non-standard method
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Estimated Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
Synthetic Rubber	Trade Secret	Data not availbl-insufficient			N/A	
1,4-Bis[(2,3-Epoxypropoxy)Methyl]Cyclohexane	14228-73-0	Experimental Biodegradation	28 days	CO2 evolution	1.3 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Experimental Hydrolysis		Hydrolytic half-life	6.5 hours (t 1/2)	Non-standard method
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	37 % weight	Non-standard method
Benzoic Acid, C9-C11-Branched Alkyl Esters	131298-44-7	Data not availbl-insufficient			N/A	
Inorganic Filler	Trade Secret	Data not availbl-insufficient			N/A	
Treated Filler	Trade Secret	Data not availbl-insufficient			N/A	
Treated Inorganic Filler	Trade Secret	Data not availbl-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 Number	Test type	Duration	Study Type	Test result	Protocol
4,4'-Isopropylidenediphenol-Epichlorohydrin Polymer	25068-38-6	Estimated Bioconcentration		Log Kow	3.242	Non-standard method
Synthetic	Trade Secret	Data not	N/A	N/A	N/A	N/A

Rubber		available or insufficient for classification				
1,4-Bis[(2,3-Epoxypropoxy) Methyl]Cyclohexane	14228-73-0	Experimental Bioconcentration		Log Kow	2.05	Non-standard method
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
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	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
Treated Inorganic Filler	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	Non-standard method

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
In accordance with the Hazardous Substances (Disposal) Notice 2017 and the relevant criteria of the HSNO Act 1996.

Dispose of completely cured (or polymerized) 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.

Packaging (that may or may not contain any residual substance) may be lawfully disposed of by householders or other consumers through public or commercial waste collection services.

SECTION 14: Transport Information

New Zealand Land Transport Rule: Dangerous Goods - Road/Rail Transport
UN No.: UN3082
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (4,4-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER)
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III
Special Instructions: Not restricted, environmentally hazardous substance exception.
Hazchem Code: 3Z
IERG: 47

International Air Transport Association (IATA) - Air Transport
UN No.: UN3082
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (4,4-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER)
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III
Special Instructions: Not restricted, as per Special Provision A197, environmentally hazardous substance exception.

International Maritime Dangerous Goods Code (IMDG) - Marine Transport
UN No.: UN3082
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. , (4,4-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER)
Class/Division: 9
Sub Risk: Not applicable.
Packing Group: III
Marine Pollutant: 4,4-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER
Special Instructions: Not restricted, as per IMDG code 2.10.2.7, marine pollutant exception.

SECTION 15: Regulatory information

HSNO Approval number	HSR002679
Group standard name	Surface Coatings and Colourants (Carcinogenic) Group Standard 2020
HSNO Hazard classification	Refer to Section 2: Hazard identification

NZ Inventory of Chemicals (NZIoC) Status
All applicable chemical ingredients in this material are in compliance with NZIoC listing requirements.

Controls in accordance with The Health and Safety at Work Act 2015, Health and Safety at Work (Hazardous Substances) Regulations 2017 and the HSNO Act 1996, Hazardous Substances (Hazardous Property Controls) Notice 2017

Certified handler	Not required
Location Compliance Certificate	Not required
Hazardous atmosphere zone	Not required
Fire extinguishers	Not required
Emergency response plan	100 L or 100 kg (for Hazardous to the aquatic environment Category 1 substances); or 1 000 L or 1 000 kg (for Acute toxicity Category 4, Skin sensitisation Category 1, Respiratory sensitisation Category 1, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for all other substances)
Secondary containment	100 L or 100 kg (for Hazardous to the aquatic environment Category 1 substances); or 1 000 L or 1 000 kg (for Acute toxicity Category 4, Skin sensitisation Category 1, Respiratory sensitisation Category 1, Hazardous to

	the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for all other substances)
Tracking	Not required
Warning signage	100 L or 100 kg (for Hazardous to the aquatic environment Category 1 substances); or 1 000 L or 1 000 kg (for Serious eye damage Category 1, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for Acute toxicity Category 4 or Hazardous to the aquatic environment Category 4 substances)

SECTION 16: Other information

Revision information:
Complete document review.

Document group:	33-5988-2	**Version number:**	3.00
Issue Date:	04/07/2021	**Supersedes date:**	13/09/2020

Key to abbreviations and acronyms
GHS refers to the Globally Harmonised System of Classification and Labelling of Chemicals, 7th revised edition of 2017
HSNO means Hazardous Substances and New Organisms Act 1996

The information in this Safety Data Sheet (SDS) is believed to be correct as of the date of issue. TO THE EXTENT PERMITTED BY LAW, 3M MAKES NO WARRANTY, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluates the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application. 3M provides information in electronic form as a service to customers. Due to the remote possibility of electronic transfer may have resulted in errors, omissions or alterations in this information; 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M.

3M New Zealand SDS are available at 3M New Zealand Website: http://solutions.3mnz.co.nz

Safety Data Sheet

Document group:	33-5984-1	**Version number:**	3.00
Issue Date:	04/07/2021	**Supersedes date:**	20/09/2020

This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances (Safety Data Sheets) Notice 2017.

SECTION 1: Identification

1.1. Product identifier
3M™ Impact Resistant Structural Adhesive Part A, PNs 07333, 57333

1.2. Recommended use and restrictions on use

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

For Industrial or Professional use only

1.3. Supplier's details

Address:	3M New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland
Telephone:	(09) 477 4040
E Mail:	innovation@nz.mmm.com
Website:	3m.co.nz

1.4. Emergency telephone number
24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

SECTION 2: Hazard identification

Classified as hazardous in accordance with the relevant criteria of the HSNO Act 1996 and the Hazardous Substances (Hazard Classification) Notice 2020.
Refer to Section 14 of this Safety Data Sheet for product Dangerous Goods Classification.

2.1. Classification of the substance or mixture
Acute Toxicity (oral): Category 4
Skin Corrosion/Irritation: Category 1B
Serious Eye Damage/Irritation: Category 1
Skin Sensitizer: Category 1A.
Reproductive Toxicity: Category 2
Specific Target Organ Toxicity (repeated exposure): Category 2
Chronic Aquatic Toxicity: Category 2

2.2. Label elements
SIGNAL WORD

Danger

Symbols:
Corrosion |Exclamation mark |Health Hazard |

Pictograms

HAZARD STATEMENTS:

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
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.
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.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280D	Wear protective gloves, protective clothing, 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.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P362 + P364	Take off contaminated clothing and wash it before reuse.
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
May cause chemical gastrointestinal burns. Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	% by Weight
Bis(3-Aminopropyl) Ether of Diethylene Glycol	4246-51-9	15 - 40
Epoxy Copolymer	Trade Secret	10 - 30
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 - 10
Acrylic copolymer	Trade Secret	5 - 10
Mineral Filler	Trade Secret	< 10
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	1 - 5
Tris(2,4,6-Dimethylaminomonomethyl)phenol	90-72-2	1 - 5
Inorganic Filler	Trade Secret	1 - 5
Treated Filler	Trade Secret	1 - 5
Formaldehyde, Polymer with Benzenamine, Hydrogenated	135108-88-2	< 2
N-Aminoethylpiperazine	140-31-8	< 0.25

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.
A product risk assessment is recommended to determine if eye wash facilities may be required when using this product in the workplace.

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

4.2. Most important symptoms and effects, both acute and delayed
The most important symptoms and effects based on the CLP classification include:

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.

5.4. Hazchem code: 2X

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

Refer to Section 15 - Controls for more information

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.

7.3. Certified handler
Not required

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
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	New Zealand WES	CEIL: 0.1 mg/m3	Skin
Aluminium	7429-90-5	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcinogin
Aluminium	7429-90-5	New Zealand WES	TWA(Al, welding fume)(8 hours):5 mg/m3;TWA(as Al pyrophoric powder)(8 hours):5 mg/m3;TWA(as Al, dust)(8 hours):10 mg/m3;TWA(as Al)(8 hours):2 mg/m3	
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 carcinogen.
Inorganic Filler	Trade Secret	ACGIH	TWA(as fiber):1 fiber/cc	A4: Not class. as human carcinogin
Inorganic Filler	Trade Secret	ACGIH	TWA(inhalable fraction):5 mg/m3	A4: Not class. as human carcinogin
Inorganic Filler	Trade Secret	New Zealand WES	TWA(Respirable fibers)(8 hours):1 f/mL;TWA(as respirable dust)(8 hours):1 f/mL;TWA(as inhalable dust)(8 hours):5 mg/m3	
Mineral Filler	Trade Secret	ACGIH	TWA(inhalable fraction):1 mg/m3	A4: Not class. as human carcinogin
Treated Filler	Trade Secret	New Zealand WES	TWA(8 hours):10 ppm	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
New Zealand WES : New Zealand Workplace Exposure Standards.
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
ppm: parts per million
mg/m³: milligrams per cubic metre
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

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.

Refer AS/NZS 1336 - Recommended practices for occupational eye protection and for performance specifications AS/NZS 1337, Parts 1 - 6 - Personal eye-protection.

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

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 - 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 vapors and particulates

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

Refer AS/NZS 1715 - Selection, use and maintenance of respiratory protective equipment and AS/NZS 1716 - Respiratory protective devices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Paste
Colour	Silver-Grey
Odour	Very Slight Acrylic
Odour threshold	*No data available.*
pH	*No data available.*
Melting point/Freezing point	*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 (solid, gas)	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.*
Viscosity/Kinematic Viscosity	55,000 - 80,000 mPa-s
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.*

Nanoparticles
This material does not contain nanoparticles.

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
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.

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 ATE2,000 - 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE300 - 2,000 mg/kg
Bis(3-Aminopropyl) Ether of Diethylene Glycol	Dermal	Rabbit	LD50 2,500 mg/kg
Bis(3-Aminopropyl) Ether of Diethylene Glycol	Ingestion	Rat	LD50 3,160 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 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	Dermal		LD50 estimated to be > 5,000 mg/kg
Mineral Filler	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Tris(2,4,6-Dimethylaminomonomethyl)phenol	Dermal	Rat	LD50 1,280 mg/kg
Tris(2,4,6-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

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 Filler	Rabbit	No significant irritation
Tris(2,4,6-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

Serious Eye Damage/Irritation

Name	Species	Value
Bis(3-Aminopropyl) Ether of Diethylene Glycol	similar health hazards	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 Filler	Rabbit	No significant irritation
Tris(2,4,6-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

Sensitisation:

Skin Sensitisation

Name	Species	Value
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
Tris(2,4,6-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
Aluminium	In Vitro	Not mutagenic
Mineral Filler	In Vitro	Not mutagenic
Tris(2,4,6-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

Carcinogenicity

Name	Route	Species	Value
Inorganic Filler	Inhalation	Multiple animal species	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Treated Filler	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	premating & 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		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
Tris(2,4,6-Dimethylaminomonomethyl)phenol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		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
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 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	
Tris(2,4,6-Dimethylaminomonomethyl)phenol	Dermal	skin | liver | nervous system | auditory system | hematopoietic system | eyes	Not classified	Rat	NOAEL 125 mg/kg/day	28 days
m-Xylene-.alpha.alpha'.Diamine	Ingestion	endocrine system | blood | bone marrow	Not classified	Rat	NOAEL 600 mg/kg/day	28 days
Formaldehyde, Polymer	Ingestion	kidney and/or	May cause damage to organs	Rat	NOAEL 15	28 days

with Benzenamine, Hydrogenated		bladder	though prolonged or repeated exposure		mg/kg/day	
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

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
Ecotoxic to the aquatic environment.
Acute Aquatic Toxicity: Category 3 (HSNO 9.1D Aquatic toxicity)
Chronic Aquatic Toxicity: Category 2 (HSNO 9.1B Aquatic toxicity)

No product test data available.

Material	CAS Number	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		Data not available or insufficient for classification			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
Acrylic copolymer	Trade Secret		Data not available or insufficient for classification			N/A
Aluminium	7429-90-5	Fish other	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(cyclohexylamine)	1761-71-3	Water flea	Analogous Compound	21 days	NOEC	4 mg/l
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(cy	1761-71-3	Soil microbes	Analogous	28 days	EC10	>1,000 mg/kg (Dry

clohexylamine)			Compound			Weight)
Methylenedi(cyclohexylamine)	1761-71-3	Bacteria	Experimental	30 minutes	EC50	156 mg/l
Mineral Filler	Trade Secret		Data not available or insufficient for classification			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
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	Activated sludge	Experimental	30 minutes	EC50	>1,000 mg/l
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	Bacteria	Experimental	16 hours	EC10	24 mg/l
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	Green Algae	Experimental	72 hours	EC50	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
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
Tris(2,4,6-Dimethylaminomonomethyl)phenol	90-72-2		Experimental	96 hours	LC50	718 mg/l
Tris(2,4,6-Dimethylaminomonomethyl)phenol	90-72-2	Common Carp	Experimental	96 hours	LC50	>100 mg/l
Tris(2,4,6-Dimethylaminomonomethyl)phenol	90-72-2	Green algae	Experimental	72 hours	EC50	46.7 mg/l
Tris(2,4,6-Dimethylaminomonomethyl)phenol	90-72-2	Water flea	Experimental	48 hours	EC50	>100 mg/l
Tris(2,4,6-Dimethylamino	90-72-2	Green algae	Experimental	72 hours	NOEC	6.44 mg/l

monomethyl)phenol						
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
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

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Bis(3-Aminopropyl) Ether of Diethylene Glycol	4246-51-9	Estimated Photolysis		Photolytic half-life (in air)	2.96 hours (t 1/2)	Non-standard method
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
Epoxy Copolymer	Trade Secret	Data not availbl-insufficient			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 availbl-insufficient			N/A	
Acrylic copolymer	Trade Secret	Data not availbl-insufficient			N/A	
Aluminium	7429-90-5	Data not availbl-insufficient			N/A	
Methylenedi(cyclohexylamine)	1761-71-3	Analogous Compound Biodegradation	28 days	BOD	0 % BOD/ThBOD	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
Mineral Filler	Trade Secret	Data not availbl-insufficient			N/A	
Inorganic Filler	Trade Secret	Data not availbl-insufficient			N/A	
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
Treated Filler	Trade Secret	Data not availbl-insufficient			N/A	
Tris(2,4,6-Dimethylaminomonomethyl)phenol	90-72-2	Experimental Biodegradation	28 days	BOD	4 % BOD/ThBOD	OECD 301D - Closed bottle test
Formaldehyde, Polymer with Benzenamine, Hydrogenated	135108-88-2	Experimental Biodegradation	28 days	BOD	0 % weight	Non-standard method
N-Aminoethylpiperazine	140-31-8	Experimental Biodegradation	28 days	BOD	0 % BOD/ThBOD	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Bis(3-Aminopropyl) Ether of Diethylene	4246-51-9	Experimental Bioconcentration		Log Kow	-1.25	Non-standard method

Glycol						
Epoxy Copolymer	Trade Secret	Estimated Bioconcentration		Bioaccumulation factor	2.9	Estimated: Bioconcentration factor
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
Acrylic copolymer	Trade Secret	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-Carp		Bioaccumulation factor	<60	OECD305-Bioconcentration
Methylenedi(cyclohexylamine)	1761-71-3	Experimental Bioconcentration		Log Kow	2.03	OECD 107 log Kow shke flsk mtd
Mineral 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
m-Xylene-.alpha.alpha'.Diamine	1477-55-0	Experimental BCF-Carp	42 days	Bioaccumulation factor	<2.7	OECD 305E - Bioaccumulation flow-through fish test
Treated Filler	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Tris(2,4,6-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-Carp	56 days	Bioaccumulation factor	≤ 219	OECD 305E - Bioaccumulation flow-through fish test
N-Aminoethylpiperazine	140-31-8	Experimental Bioconcentration		Log Kow	0.3	Non-standard method

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
In accordance with the Hazardous Substances (Disposal) Notice 2017 and the relevant criteria of the HSNO Act 1996.

Dispose of completely cured (or polymerized) 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. 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.

Packaging (that may or may not contain any residual substance) may be lawfully disposed of by householders or other consumers through public or commercial waste collection services.

SECTION 14: Transport Information

New Zealand Land Transport Rule: Dangerous Goods - Road/Rail Transport
UN No.: UN2735
Proper Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. , (BIS(3-AMINOPROPYL) ETHER of DIETHYLENE GLYCOL, METHYLENEDI(CYCLOHEXYLAMINE))
Class/Division: 8
Sub Risk: Not applicable.
Packing Group: II
Special Instructions: Limited quantity may apply
Hazchem Code: 2X
IERG: 36

International Air Transport Association (IATA) - Air Transport
UN No.: UN2735
Proper Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. , (BIS(3-AMINOPROPYL) ETHER of DIETHYLENE GLYCOL, METHYLENEDI(CYCLOHEXYLAMINE))
Class/Division: 8
Sub Risk: Not applicable.
Packing Group: II

International Maritime Dangerous Goods Code (IMDG) - Marine Transport
UN No.: UN2735
Proper Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. , (BIS(3-AMINOPROPYL) ETHER of DIETHYLENE GLYCOL, METHYLENEDI(CYCLOHEXYLAMINE))
Class/Division: 8
Sub Risk: Not applicable.
Packing Group: II
Marine Pollutant: Not applicable.
Special Instructions: Limited quantity may apply

SECTION 15: Regulatory information

HSNO Approval number	HSR002658
Group standard name	Surface Coatings and Colourants (Corrosive) Group Standard 2020
HSNO Hazard classification	Refer to Section 2: Hazard identification

NZ Inventory of Chemicals (NZIoC) Status
All applicable chemical ingredients in this material are in compliance with NZIoC listing requirements.

Controls in accordance with The Health and Safety at Work Act 2015, Health and Safety at Work (Hazardous Substances) Regulations 2017 and the HSNO Act 1996, Hazardous Substances (Hazardous Property Controls) Notice 2017

Certified handler	Not required
Location Compliance Certificate	Not required
Hazardous atmosphere zone	Not required
Fire extinguishers	Not required
Emergency response plan	100 L or 100 kg (for Hazardous to the aquatic environment Category 1 substances); or 1 000 L or 1 000 kg (for Acute toxicity Category 4, Skin sensitisation Category 1, Respiratory sensitisation Category 1, Skin corrosion Category 1B, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for all other substances)
Secondary containment	100 L or 100 kg (for Hazardous to the aquatic environment Category 1 substances); or 1 000 L or 1 000 kg (for Acute toxicity Category 4, Skin sensitisation Category 1, Respiratory sensitisation Category 1, Skin corrosion Category 1B, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for all other substances)
Tracking	Not required
Warning signage	100 L or 100 kg (for Hazardous to the aquatic environment Category 1 substances); or 250 L or 250 kg (for Skin corrosion Category 1B substances); or 1 000 L or 1 000 kg (for all other substances)

SECTION 16: Other information

Revision information:
Complete document review.

Document group:	33-5984-1	**Version number:**	3.00
Issue Date:	04/07/2021	**Supersedes date:**	20/09/2020

Key to abbreviations and acronyms
GHS refers to the Globally Harmonised System of Classification and Labelling of Chemicals, 7th revised edition of 2017
HSNO means Hazardous Substances and New Organisms Act 1996

The information in this Safety Data Sheet (SDS) is believed to be correct as of the date of issue. TO THE EXTENT PERMITTED BY LAW, 3M MAKES NO WARRANTY, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluates the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application. 3M provides information in electronic form as a service to customers. Due to the remote possibility of electronic transfer may have resulted in errors, omissions or alterations in this information; 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M.

3M New Zealand SDS are available at 3M New Zealand Website: http://solutions.3mnz.co.nz