Safety Data Sheet

Document group:	28-1002-6	**Version number:**	3.00
Issue Date:	09/08/2023	**Supersedes date:**	17/08/2020

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™ Super-Fast Repair Adhesive PN 04747

Product Identification Numbers
60-4550-5242-7

1.2. Recommended use and restrictions on use

Recommended use
Automotive.

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:

22-1870-9, 22-1807-1

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

NOT HAZARDOUS FOR TRANSPORT

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:	22-1807-1	**Version number:**	3.00
Issue Date:	09/08/2023	**Supersedes date:**	17/08/2020

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™ Super-Fast Repair Adhesive PN 04747 - Part A

1.2. Recommended use and restrictions on use

Recommended use
Two-part urethane system., Industrial use.

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
Skin irritation: Category 2
Eye irritation: Category 2
Respiratory sensitisation: Category 1
Skin sensitisation: Category 1
Specific target organ toxicity – repeated exposure: Category 1
Specific target organ toxicity – single exposure: Category 3 respiratory tract irritation

2.2. Label elements
SIGNAL WORD
Danger

Symbols:
Exclamation mark |Health Hazard |

Pictograms

HAZARD STATEMENTS:

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H372	Causes damage to organs through prolonged or repeated exposure: respiratory system.

PRECAUTIONARY STATEMENTS

Prevention

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P284	Wear respiratory protection.

Response

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
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.
P312	Call a POISON CENTRE or doctor/physician if you feel unwell.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313	IF eye irritation persists: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
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 sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	% by Weight
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	25 - 60
Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]	68424-09-9	15 - 40
4,4'-Methylenediphenyl diisocyanate, oligomers	25686-28-6	5 - 25
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	1 - 2
Isocyanic Acid, 3-(Triethoxysilyl)Propyl Ester	24801-88-5	0.1 - 1

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
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.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Hydrogen cyanide.	During combustion.
Oxides of nitrogen.	During combustion.
Toxic vapour, gas, particulate.	During combustion.

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

5.4. Hazchem code: Not applicable.

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. Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. 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 container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. 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. 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
Do not use in a confined area with minimal air exchange. 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.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from acids. Store away from strong bases.

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
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	ACGIH	TWA:0.005 ppm	
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	New Zealand WES	TWA(inhalable fraction and vapor)(8 hours):0.02 mg/m3;STEL(inhalable fraction and vapor)(15	Dermal sensitiser, Respiratory sensitiser

			minutes):0.07 mg/m3	
Free isocyanates	24801-88-5	New Zealand WES	TWA(as NCO,Inhalable fraction and vapor)(8 hours):0.02 mg/m3;TWA(as NCO)(8 hours):0.02 mg/m3;STEL(as NCO,Inhalable fraction and vapor)(15 minutes):0.07 mg/m3;STEL(as NCO)(15 minutes):0.07 mg/m3	Capable of csng resp/skin sens, Dermal sensitiser, Respiratory sensitiser
Free isocyanates	25686-28-6	New Zealand WES	TWA(as NCO,Inhalable fraction and vapor)(8 hours):0.02 mg/m3;TWA(as NCO)(8 hours):0.02 mg/m3;STEL(as NCO,Inhalable fraction and vapor)(15 minutes):0.07 mg/m3;STEL(as NCO)(15 minutes):0.07 mg/m3	Capable of csng resp/skin sens, Dermal sensitiser, Respiratory sensitiser
Free isocyanates	68424-09-9	New Zealand WES	TWA(as NCO,Inhalable fraction and vapor)(8 hours):0.02 mg/m3;TWA(as NCO)(8 hours):0.02 mg/m3;STEL(as NCO,Inhalable fraction and vapor)(15 minutes):0.07 mg/m3;STEL(as NCO)(15 minutes):0.07 mg/m3	Capable of csng resp/skin sens, Dermal sensitiser, Respiratory sensitiser

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
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

In case of inadequate ventilation wear 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:	Viscous.
Colour	Colourless
Odour	Low Odour, Odourless
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*No data available.*
Boiling point/Initial boiling point/Boiling range	>=204.4 ºC
Flash point	>=143.3 ºC [*Test Method:*Tagliabue closed cup]
Evaporation rate	<=1 [*Details:*Gels with exposure to humidity.]
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	<=0 Pa [@ 20 ºC]
Vapor Density and/or Relative Vapor Density	>=1 [*Ref Std:*AIR=1]
Density	1.1 g/ml
Relative density	1.1 [*Ref Std:*WATER=1]
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*Not applicable.*
Decomposition temperature	*No data available.*
Viscosity/Kinematic Viscosity	1,000 - 2,000 mPa-s
Volatile organic compounds (VOC)	22 g/l [*Test Method:*calculated SCAQMD rule 443.1]
Volatile organic compounds (VOC)	2 % weight [*Test Method:*calculated per CARB title 2]
Percent volatile	2 % weight [*Test Method:*Estimated]
VOC less H2O & exempt solvents	22 g/l [*Test Method:*calculated SCAQMD rule 443.1]

Molecular weight	*No data available.*

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
None known.

10.5 Incompatible materials
Water
Strong acids.
Strong bases.

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. Allergic respiratory reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. May cause additional health effects (see below).

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

Eye contact
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.

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
Respiratory effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure.

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

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-Vapor(4 hr)		No data available; calculated ATE >20 - =50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
P,P'-Methylenebis(phenyl isocyanate)	Dermal	Rabbit	LD50 > 5,000 mg/kg
P,P'-Methylenebis(phenyl isocyanate)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
P,P'-Methylenebis(phenyl isocyanate)	Ingestion	Rat	LD50 31,600 mg/kg
4,4'-Methylenediphenyl diisocyanate, oligomers	Dermal	Rabbit	LD50 > 5,000 mg/kg
4,4'-Methylenediphenyl diisocyanate, oligomers	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
4,4'-Methylenediphenyl diisocyanate, oligomers	Ingestion	Rat	LD50 31,600 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
Isocyanic Acid, 3-(Triethoxysilyl)Propyl Ester	Dermal	Rabbit	LD50 1,259 mg/kg
Isocyanic Acid, 3-(Triethoxysilyl)Propyl Ester	Inhalation-Vapor (4 hours)	Rat	LC50 0.36 mg/l
Isocyanic Acid, 3-(Triethoxysilyl)Propyl Ester	Ingestion	Rat	LD50 706 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
P,P'-Methylenebis(phenyl isocyanate)	official classification	Irritant
4,4'-Methylenediphenyl diisocyanate, oligomers	official classification	Irritant
3-(Trimethoxysilyl)Propyl Glycidyl Ether	Rabbit	Mild irritant
Isocyanic Acid, 3-(Triethoxysilyl)Propyl Ester	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
P,P'-Methylenebis(phenyl isocyanate)	official	Severe irritant

	classification	
4,4'-Methylenediphenyl diisocyanate, oligomers	official classification	Severe irritant
3-(Trimethoxysilyl)Propyl Glycidyl Ether	Rabbit	Corrosive
Isocyanic Acid, 3-(Triethoxysilyl)Propyl Ester	Rabbit	Corrosive

Sensitisation:

Skin Sensitisation

Name	Species	Value
P,P'-Methylenebis(phenyl isocyanate)	official classification	Sensitising
4,4'-Methylenediphenyl diisocyanate, oligomers	official classification	Sensitising
3-(Trimethoxysilyl)Propyl Glycidyl Ether	Guinea pig	Not classified
Isocyanic Acid, 3-(Triethoxysilyl)Propyl Ester	similar compounds	Sensitising

Respiratory Sensitisation

Name	Species	Value
P,P'-Methylenebis(phenyl isocyanate)	Human	Sensitising
4,4'-Methylenediphenyl diisocyanate, oligomers	Human	Sensitising
Isocyanic Acid, 3-(Triethoxysilyl)Propyl Ester	similar compounds	Sensitising

Germ Cell Mutagenicity

Name	Route	Value
P,P'-Methylenebis(phenyl isocyanate)	In Vitro	Some positive data exist, but the data are not sufficient for classification
4,4'-Methylenediphenyl diisocyanate, oligomers	In Vitro	Some positive data exist, but the data are not sufficient for classification
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

Carcinogenicity

Name	Route	Species	Value
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
4,4'-Methylenediphenyl diisocyanate, oligomers	Inhalation	Rat	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
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
4,4'-Methylenediphenyl diisocyanate, oligomers	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	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
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
4,4'-Methylenediphenyl diisocyanate, oligomers	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
4,4'-Methylenediphenyl diisocyanate, oligomers	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
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

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
P,P'-Methylenebis(p	101-68-8	Activated sludge	Analogous Compound	3 hours	EC50	>100 mg/l

henyl isocyanate)						
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	Green algae	Analogous Compound	72 hours	EC50	>1,640 mg/l
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	Water flea	Analogous Compound	24 hours	EC50	>1,000 mg/l
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	Zebra Fish	Analogous Compound	96 hours	LC50	>1,000 mg/l
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	Green algae	Analogous Compound	72 hours	NOEC	1,640 mg/l
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	Water flea	Analogous Compound	21 days	NOEC	10 mg/l
Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]	68424-09-9	N/A	Data not available or insufficient for classification	N/A	N/A	NA
4,4'-Methylenediphenyl diisocyanate, oligomers	25686-28-6	Green algae	Estimated	72 hours	EC50	>1,640 mg/l
4,4'-Methylenediphenyl diisocyanate, oligomers	25686-28-6	Water flea	Estimated	24 hours	EC50	>1,000 mg/l
4,4'-Methylenediphenyl diisocyanate, oligomers	25686-28-6	Zebra Fish	Estimated	96 hours	LC50	>1,000 mg/l
4,4'-Methylenediphenyl diisocyanate, oligomers	25686-28-6	Green algae	Estimated	72 hours	NOEL	1,640 mg/l
4,4'-Methylenediphenyl diisocyanate, oligomers	25686-28-6	Water flea	Estimated	21 days	NOEC	10 mg/l
3-	2530-83-8	Common Carp	Experimental	96 hours	LC50	55 mg/l

(Trimethoxysilyl)Propyl Glycidyl Ether						
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Green algae	Experimental	96 hours	ErC50	350 mg/l
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Invertebrate	Experimental	48 hours	LC50	324 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
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Activated sludge	Experimental	3 hours	EC50	>100 mg/l
Isocyanic Acid, 3-(Triethoxysilyl) Propyl Ester	24801-88-5	Green algae	Estimated	72 hours	EC50	>1,000 mg/l
Isocyanic Acid, 3-(Triethoxysilyl) Propyl Ester	24801-88-5	Water flea	Estimated	48 hours	EC50	331 mg/l
Isocyanic Acid, 3-(Triethoxysilyl) Propyl Ester	24801-88-5	Zebra Fish	Estimated	96 hours	LC50	>934 mg/l
Isocyanic Acid, 3-(Triethoxysilyl) Propyl Ester	24801-88-5	Activated sludge	Experimental	3 hours	NOEC	10 mg/l
Isocyanic Acid, 3-(Triethoxysilyl) Propyl Ester	24801-88-5	Green algae	Estimated	72 hours	NOEC	1.3 mg/l
Isocyanic Acid, 3-(Triethoxysilyl) Propyl Ester	24801-88-5	Water flea	Estimated	21 days	NOEC	>=100 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	Data not availbl-insufficient	N/A	N/A	N/A	N/A

Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]	68424-09-9	Data not availbl-insufficient	N/A	N/A	N/A	N/A
4,4'-Methylenediphenyl diisocyanate, oligomers	25686-28-6	Data not availbl-insufficient	N/A	N/A	N/A	N/A
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	37 % removal of DOC	EC C.4.A. DOC Die-Away Test
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	6.5 hours (t 1/2)	OECD 111 Hydrolysis func of pH
Isocyanic Acid, 3-(Triethoxysilyl) Propyl Ester	24801-88-5	Estimated Hydrolysis		Hydrolytic half-life	8.5 hours (t 1/2)	

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	200	OECD305-Bioconcentration
Castor oil, polymer with 1,1'-methylenebis[4-isocyanatobenzene]	68424-09-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4,4'-Methylenediphenyl diisocyanate, oligomers	25686-28-6	Estimated BCF - Fish	28 days	Bioaccumulation factor	200	OECD305-Bioconcentration
3-(Trimethoxysilyl)Propyl Glycidyl Ether	2530-83-8	Experimental Bioconcentration		Log Kow	0.5	Episuite™
Isocyanic Acid, 3-(Triethoxysilyl) Propyl Ester	24801-88-5	Estimated BCF - Fish	56 days	Bioaccumulation factor	<3.4	OECD305-Bioconcentration

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.: Not applicable.
Proper Shipping Name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.

Hazchem Code: Not applicable.
IERG: Not applicable.

International Air Transport Association (IATA) - Air Transport
UN No.: Not applicable.
Proper Shipping Name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.

International Maritime Dangerous Goods Code (IMDG) - Marine Transport
UN No.: Not applicable.
Proper Shipping Name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.
Marine Pollutant: Not applicable.

SECTION 15: Regulatory information

HSNO Approval number	HSR002670
Group standard name	Surface Coatings and Colourants (Subsidiary Hazard) 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 Germ cell mutagenicity Category 1, Reproductive toxicity Category 1, Specific target organ toxicity Category 1, Serious eye damage Category 1, Hazardous to the aquatic environment Category 4 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 Germ cell mutagenicity Category 1, Reproductive toxicity Category 1, Specific target organ toxicity Category 1, Serious eye damage Category 1, Hazardous to the aquatic environment Category 4 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:	22-1807-1	**Version number:**	3.00
Issue Date:	09/08/2023	**Supersedes date:**	17/08/2020

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:	22-1870-9	**Version number:**	3.00
Issue Date:	09/08/2023	**Supersedes date:**	17/08/2020

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™ Super Fast Adhesive PN 04747 (Part B)

1.2. Recommended use and restrictions on use

Recommended use
Two-part urethane system., Industrial use.

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
Skin irritation: Category 2
Eye irritation: Category 2
Skin sensitisation: Category 1

2.2. Label elements
SIGNAL WORD
Warning

Symbols:
Exclamation mark |

Pictograms

HAZARD STATEMENTS:

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS

Prevention

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.

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.
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.

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.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	% by Weight
Polyether Polyol	9082-00-2	40 - 70
Propoxylated trimethylolpropane	25723-16-4	10 - 30
Tetrakis(2-hydroxypropyl)ethylenediamine	102-60-3	10 - 30
M-xylene-alpha,alpha'-diamine	1477-55-0	1 - 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 dry chemical extinguisher to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Oxides of nitrogen.	During combustion.

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

5.4. Hazchem code: Not applicable.

SECTION 6: Accidental release measures

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

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
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
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.)

7.2. Conditions for safe storage including any incompatibilities
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

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
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.
Gloves made from the following material(s) are recommended: Butyl rubber.
Fluoroelastomer
Neoprene.

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.

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:	Gel
Colour	Colourless
Odour	Slight Ammoniacal
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*No data available.*
Boiling point/Initial boiling point/Boiling range	>=204.4 ºC
Flash point	>=143.3 ºC [*Test Method:*Tagliabue closed cup]
Evaporation rate	<=1 [*Ref Std:*WATER=1]
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*Not applicable.*
Vapor Density and/or Relative Vapor Density	>=1 [*Ref Std:*AIR=1]
Density	1.02 g/ml
Relative density	1.02 [*Ref Std:*WATER=1]
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*Not applicable.*
Decomposition temperature	*No data available.*
Viscosity/Kinematic Viscosity	1,300 - 2,000 mPa-s
Volatile organic compounds (VOC)	0 % weight [*Test Method:*calculated per CARB title 2]
Volatile organic compounds (VOC)	0 g/l [*Test Method:*calculated SCAQMD rule 443.1]

Percent volatile	<=1 % weight [*Test Method:*Estimated]
VOC less H2O & exempt solvents	0 g/l [*Test Method:*calculated SCAQMD rule 443.1]
Molecular weight	*No data available.*

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
None known.

10.5 Incompatible materials
Strong acids.
Strong oxidising agents.

10.6 Hazardous decomposition products

Substance	**Condition**
None known.	

Refer to Section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation
Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

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

Eye contact
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.

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 >5,000 mg/kg
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE >1 - =5 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Polyether Polyol	Dermal	similar compounds	LD50 > 2,000 mg/kg
Polyether Polyol	Inhalation-Dust/Mist (4 hours)	similar compounds	LC50 > 3.2 mg/l
Polyether Polyol	Ingestion	similar compounds	LD50 > 5,000 mg/kg
Propoxylated trimethylolpropane	Dermal	Rat	LD50 > 2,000 mg/kg
Propoxylated trimethylolpropane	Ingestion	Rat	LD50 > 2,500 mg/kg
Tetrakis(2-hydroxypropyl)ethylenediamine	Dermal	Rat	LD50 > 2,000 mg/kg
Tetrakis(2-hydroxypropyl)ethylenediamine	Ingestion	Rat	LD50 2,890 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

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Polyether Polyol	similar compounds	Minimal irritation
Propoxylated trimethylolpropane	Rabbit	No significant irritation
Tetrakis(2-hydroxypropyl)ethylenediamine	Rabbit	No significant irritation
M-xylene-alpha,alpha'-diamine	Rat	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Polyether Polyol	similar compounds	Mild irritant
Propoxylated trimethylolpropane	Rabbit	Mild irritant
Tetrakis(2-hydroxypropyl)ethylenediamine	Rabbit	Severe irritant
M-xylene-alpha,alpha'-diamine	Rabbit	Corrosive

Sensitisation:

Skin Sensitisation

Name	Species	Value

Polyether Polyol	similar compoun ds	Not classified
Tetrakis(2-hydroxypropyl)ethylenediamine	Guinea pig	Not classified
M-xylene-alpha,alpha'-diamine	Guinea pig	Sensitising

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
Polyether Polyol	In Vitro	Not mutagenic
Tetrakis(2-hydroxypropyl)ethylenediamine	In Vitro	Not mutagenic
M-xylene-alpha,alpha'-diamine	In Vitro	Not mutagenic
M-xylene-alpha,alpha'-diamine	In vivo	Not mutagenic

Carcinogenicity

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

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Tetrakis(2-hydroxypropyl)ethylenediamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Tetrakis(2-hydroxypropyl)ethylenediamine	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	30 days
Tetrakis(2-hydroxypropyl)ethylenediamine	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
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

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Tetrakis(2-hydroxypropyl)ethylenediamine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Positive	
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	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Tetrakis(2-hydroxypropyl)ethylenediamine	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 300 mg/kg/day	30 days

Tetrakis(2-hydroxypropyl)ethylenediamine	Ingestion	heart | skin | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | muscles | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 1,000 mg/kg/day	30 days
M-xylene-alpha,alpha'-diamine	Ingestion	endocrine system | blood | bone marrow	Not classified	Rat	NOAEL 600 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

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Polyether Polyol	9082-00-2	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Propoxylated trimethylolpropane	25723-16-4	Activated sludge	Experimental	3 hours	EC10	>10,000 mg/l
Propoxylated trimethylolpropane	25723-16-4	Green algae	Experimental	72 hours	EC50	>100 mg/l
Propoxylated trimethylolpropane	25723-16-4	Water flea	Experimental	48 hours	EC50	>100 mg/l
Propoxylated trimethylolpropane	25723-16-4	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Propoxylated trimethylolpropane	25723-16-4	Green algae	Experimental	72 hours	NOEC	100 mg/l
Propoxylated trimethylolpropane	25723-16-4	Water flea	Experimental	21 days	NOEC	8.5 mg/l

Tetrakis(2-hydroxypropyl) ethylenediamine	102-60-3	Green algae	Analogous Compound	72 hours	ErC50	>100 mg/l
Tetrakis(2-hydroxypropyl) ethylenediamine	102-60-3	Water flea	Analogous Compound	48 hours	EC50	>500 mg/l
Tetrakis(2-hydroxypropyl) ethylenediamine	102-60-3	Activated sludge	Experimental	30 minutes	EC50	>1,000 mg/l
Tetrakis(2-hydroxypropyl) ethylenediamine	102-60-3	Fathead minnow	Experimental	96 hours	LC50	>1,000 mg/l
Tetrakis(2-hydroxypropyl) ethylenediamine	102-60-3	Green algae	Analogous Compound	72 hours	ErC10	16.1 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	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

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Polyether Polyol	9082-00-2	Modeled Biodegradation	28 days	BOD	20 %BOD/ThOD	Catalogic™
Propoxylated trimethylolpropane	25723-16-4	Experimental Biodegradation	28 days	BOD	84 %BOD/ThOD	
Tetrakis(2-hydroxypropyl) ethylenediamine	102-60-3	Experimental Biodegradation	28 days	BOD	1 %BOD/ThOD	OECD 301C - MITI test (I)
M-xylene-	1477-55-0	Experimental	28 days	CO2 evolution	49 %CO2	OECD 301B - Modified

alpha,alpha'-diamine		Biodegradation			evolution/THCO2 evolution	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)

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Polyether Polyol	9082-00-2	Modeled Bioconcentration		Bioaccumulation factor	2	Catalogic™
Polyether Polyol	9082-00-2	Modeled Bioconcentration		Log Kow	-2.6	Episuite™
Propoxylated trimethylolpropane	25723-16-4	Experimental Bioconcentration		Log Kow	1.8	
Tetrakis(2-hydroxypropyl) ethylenediamine	102-60-3	Experimental Bioconcentration		Log Kow	0.27	OECD 107 log Kow shke flsk mtd
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 Bioconcentration		Log Kow	0.18	OECD 107 log Kow shke flsk mtd

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.: Not applicable.
Proper Shipping Name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.

Hazchem Code: Not applicable.
IERG: Not applicable.

International Air Transport Association (IATA) - Air Transport
UN No.: Not applicable.
Proper Shipping Name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.

International Maritime Dangerous Goods Code (IMDG) - Marine Transport
UN No.: Not applicable.
Proper Shipping Name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.
Marine Pollutant: Not applicable.

SECTION 15: Regulatory information

HSNO Approval number	HSR002670
Group standard name	Surface Coatings and Colourants (Subsidiary Hazard) 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 Germ cell mutagenicity Category 1, Reproductive toxicity Category 1, Specific target organ toxicity Category 1, Serious eye damage Category 1, Hazardous to the aquatic environment Category 4 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 Germ cell mutagenicity Category 1, Reproductive toxicity Category 1, Specific target organ toxicity Category 1, Serious eye damage Category 1, Hazardous to the aquatic

	environment Category 4 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:	22-1870-9	**Version number:**	3.00
Issue Date:	09/08/2023	**Supersedes date:**	17/08/2020

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