Safety Data Sheet

Document group:	11-3195-2	**Version number:**	12.00
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Transportation version number:			

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier
3M Scotch-Weld Urethane Adhesive EC-3549 B/A

Product Identification Numbers
87-2500-0412-1

7000058944

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

Identified uses
Two-Component Polyurethane Adhesive

1.3. Details of the supplier of the safety data sheet

Address: 3M Ireland Limited, The Iveagh Building, The Park, Carrickmines, Dublin 18.
Telephone: +353 1 280 3555
E Mail: tox.uk@mmm.com

Website: www.3M.com

1.4. Emergency telephone number
Emergency medical information: 8am-10pm (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland. Telephone Number: +353 (0)1 809 2166

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

10-8304-7, 10-8546-3

TRANSPORTATION INFORMATION

Refer to section 14 of the kit components for transport information.

KIT LABEL

2.1. Classification of the substance or mixture
CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:
Acute Toxicity, Category 4 - Acute Tox. 4; H332
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Respiratory Sensitization, Category 1 - Resp. Sens. 1; H334
Skin Sensitization, Category 1 - Skin Sens. 1; H317
Carcinogenicity, Category 2 - Carc. 2; H351
Specific Target Organ Toxicity-Repeated Exposure, Category 2 - STOT RE 2; H373
Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H335

For full text of H phrases, see Section 16.

2.2. Label elements
CLP REGULATION (EC) No 1272/2008

SIGNAL WORD
DANGER.

Symbols
GHS07 (Exclamation mark) |GHS08 (Health Hazard) |

Pictograms

Contains:
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane; o-(p-isocyanatobenzyl)phenyl isocyanate; Formaldehyde, oligomeric reaction products with aniline and phosgene; 4,4'-methylenediphenyl diisocyanate; Polymethylene polyphenylene isocyanate.

HAZARD STATEMENTS:

H332	Harmful if inhaled.
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.
H351	Suspected of causing cancer.
H335	May cause respiratory irritation.

H373	May cause damage to organs through prolonged or repeated exposure: respiratory system.

PRECAUTIONARY STATEMENTS

Prevention:

P261A	Avoid breathing vapours.
P280K	Wear protective gloves and respiratory protection.

Response:

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.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

<=125 ml Hazard statements

H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.

<=125 ml Precautionary statements

Prevention:

P261A	Avoid breathing vapours.
P280K	Wear protective gloves and respiratory protection.

Response:

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.

Information required per Regulation (EU) 2020/1149 as regards diisocyanates:
As from 24 August 2023 adequate training is required before industrial or professional use. Further information can be found at feica.eu/Puinfo

Revision information:
Label: CLP Percent Unknown - Kit information was deleted.
Kit Information: CLP Target Organ Hazard Statement information was deleted.
Kit: Component document group number(s) information was modified.
Label: CLP Ingredients - kit components information was modified.
Section 1: Emergency telephone information was modified.
Section 2: <125ml Hazard - Health information was modified.
Section 2: <125ml Precautionary - Prevention information was modified.
Section 2: <125ml Precautionary - Response information was modified.
Label: CLP Classification information was modified.
Label: CLP Precautionary - Prevention information was modified.
Label: CLP Precautionary - Response information was modified.
Label: CLP Target Organ Hazard Statement information was added.
Section 02: Regulation (EU) 2020/1149 Statement information was added.

Safety Data Sheet

Document group:	10-8304-7	**Version number:**	9.04
Revision date:	05/01/2024	**Supersedes date:**	20/07/2022

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
3M Scotch-Weld Urethane Adhesive EC-3549 B/A Part B

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

Identified uses
Automotive.

1.3. Details of the supplier of the safety data sheet

Address:	3M Ireland Limited, The Iveagh Building, The Park, Carrickmines, Dublin 18.
Telephone:	+353 1 280 3555
E Mail:	tox.uk@mmm.com
Website:	www.3M.com

1.4. Emergency telephone number
+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
CLP REGULATION (EC) No 1272/2008

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.

CLASSIFICATION:
This material is not classified as hazardous according to Regulation (EC) No. 1272/2008, as amended, on classification, labelling, and packaging of substances and mixtures.

2.2. Label elements
CLP REGULATION (EC) No 1272/2008
Not applicable

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

No hazard statements are required for containers <=125 mL.

SUPPLEMENTAL INFORMATION:

Supplemental Hazard Statements:

EUH210	Safety data sheet available on request.
EUH208	Contains 2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane. May produce an allergic reaction.

2.3. Other hazards

None known.
This material does not contain any substances that are assessed to be a PBT or vPvB

SECTION 3: Composition/information on ingredients

3.1. Substances
Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Polyester resin	Trade Secret	30 - 60	Substance not classified as hazardous
Propane-1,2-diol, propoxylated	(CAS-No.) 25322-69-4	10 - 30	Acute Tox. 4, H302
Talc	(CAS-No.) 14807-96-6 (EC-No.) 238-877-9	10 - 30	Substance with a national occupational exposure limit
4,4'-Methylenebis[2,6-diethylaniline	(CAS-No.) 13680-35-8 (EC-No.) 237-185-4	< 1.2	Aquatic Chronic 2, H411 Acute Tox. 4, H302
Propylidynetrimethanol, propoxylated	(CAS-No.) 25723-16-4 (EC-No.) 500-041-9	3 - 7	Substance not classified as hazardous
Zeolites	(CAS-No.) 1318-02-1 (EC-No.) 215-283-8	< 3	Substance not classified as hazardous
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	(CAS-No.) 3388-04-3 (EC-No.) 222-217-1	< 1	Aquatic Chronic 3, H412 Skin Sens. 1, H317

Please see section 16 for the full text of any H statements referred to in this section

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

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
If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, get medical attention.

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

4.2. Most important symptoms and effects, both acute and delayed
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. Extinguishing media
In case of fire: Use a carbon dioxide or 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.
Irritant vapours or gases.	During combustion.

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, 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.

6.4. Reference to other sections
Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial/occupational use only. Not for consumer sale or use. 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 oxidising agents.

7.3. Specific end use(s)
See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

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
Talc	14807-96-6	Ireland OELs	TWA(Total inhalable dust)(8 hours):10 mg/m3;TWA(as respirable dust)(8 hours):0.8 mg/m3	

Ireland OELs : Ireland. OELs
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

Biological limit values
No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

Recommended monitoring procedures: Information on recommended monitoring procedures can be obtained from Indust. Inspect./Ministry (IE)

8.2. Exposure controls

8.2.1. Engineering controls
No engineering controls required.

8.2.2. Personal protective equipment (PPE)

Eye/face protection
None required.

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:

Material	Thickness (mm)	Breakthrough Time
Polymer laminate	No data available	No data available

Applicable Norms/Standards
Use gloves tested to EN 374

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
None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Paste
Colour	Off-White
Odor	Slight Odor, Mild Odor
Odour threshold	*No data available.*
Melting point/freezing point	*Not applicable.*
Boiling point/boiling range	>=178.9 ºC
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Flash point	>=178.9 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	19,084 mm²/sec
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	*No data available.*
Density	1.31 g/ml
Relative density	1.31 [*Ref Std:*WATER=1]
Relative Vapour Density	*Not applicable.*

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	*No data available.*
Evaporation rate	*Not applicable.*
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
Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

10.5 Incompatible materials
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 agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from internal hazard assessments.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Signs and Symptoms of Exposure

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

Inhalation
No health effects are expected.

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

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

Ingestion
May be harmful if swallowed.

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
Polyester resin	Ingestion	Rat	LD50 > 15,000 mg/kg
Propane-1,2-diol, propoxylated	Dermal	Rabbit	LD50 > 10,000 mg/kg

Propane-1,2-diol, propoxylated	Ingestion	Rat	LD50 > 1,000 mg/kg
Talc	Dermal		LD50 estimated to be > 5,000 mg/kg
Talc	Ingestion		LD50 estimated to be > 5,000 mg/kg
Propylidynetrimethanol, propoxylated	Dermal	Rat	LD50 > 2,000 mg/kg
Propylidynetrimethanol, propoxylated	Ingestion	Rat	LD50 > 2,500 mg/kg
Zeolites	Dermal	Rabbit	LD50 > 2,000 mg/kg
Zeolites	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4.57 mg/l
Zeolites	Ingestion	Rat	LD50 > 5,000 mg/kg
4,4'-Methylenebis[2,6-diethylaniline	Dermal	Rat	LD50 > 2,000 mg/kg
4,4'-Methylenebis[2,6-diethylaniline	Ingestion	Rat	LD50 1,736 mg/kg
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	Dermal	Rabbit	LD50 6,700 mg/kg
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	Inhalation-Vapour (4 hours)	Rat	LC50 > 7 mg/l
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	Ingestion	Rat	LD50 13,100 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Propane-1,2-diol, propoxylated	Not available	No significant irritation
Talc	Rabbit	No significant irritation
Propylidynetrimethanol, propoxylated	Rabbit	No significant irritation
Zeolites	Rabbit	No significant irritation
4,4'-Methylenebis[2,6-diethylaniline	Rabbit	No significant irritation
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Propane-1,2-diol, propoxylated	Not available	Mild irritant
Talc	Rabbit	No significant irritation
Propylidynetrimethanol, propoxylated	Rabbit	Mild irritant
Zeolites	Rabbit	Mild irritant
4,4'-Methylenebis[2,6-diethylaniline	In vitro data	No significant irritation
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
Propane-1,2-diol, propoxylated	Human and animal	Not classified
4,4'-Methylenebis[2,6-diethylaniline	Mouse	Not classified
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	similar compounds	Sensitising

Respiratory Sensitisation

Name	Species	Value
Talc	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value

Propane-1,2-diol, propoxylated	In Vitro	Not mutagenic
Talc	In Vitro	Not mutagenic
Talc	In vivo	Not mutagenic
4,4'-Methylenebis[2,6-diethylaniline	In Vitro	Not mutagenic
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Talc	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Talc	Ingestion	Not classified for development	Rat	NOAEL 1,600 mg/kg	during organogenesis
4,4'-Methylenebis[2,6-diethylaniline	Ingestion	Not classified for development	Rat	NOAEL 15 mg/kg/day	during gestation
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	Ingestion	Not classified for development	Rabbit	NOAEL 0.27 mg/kg/day	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure
For the component/components, either no data is currently available or the data is not sufficient for classification.

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Talc	Inhalation	pneumoconiosis	Repeated and prolonged exposure to large amounts of talc dust can cause lung injury	Human	NOAEL Not available	occupational exposure
Talc	Inhalation	pulmonary fibrosis | respiratory system	Not classified	Rat	NOAEL 18 mg/m³	113 weeks
4,4'-Methylenebis[2,6-diethylaniline	Ingestion	liver | heart | endocrine system | hematopoietic system | immune system | nervous system | kidney and/or bladder	Not classified	Rat	NOAEL 50 mg/kg/day	90 days

Aspiration Hazard
For the component/components, either no data is currently available or the data is 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.

11.2. Information on other hazards

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
Polyester resin	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Propane-1,2-diol, propoxylated	25322-69-4	Green algae	Analogous Compound	72 hours	ErC50	>100 mg/l
Propane-1,2-diol, propoxylated	25322-69-4	Water flea	Analogous Compound	48 hours	EC50	105.8 mg/l
Propane-1,2-diol, propoxylated	25322-69-4	Zebra Fish	Analogous Compound	96 hours	LC50	>100 mg/l
Propane-1,2-diol, propoxylated	25322-69-4	Green algae	Analogous Compound	72 hours	NOEC	100 mg/l
Propane-1,2-diol, propoxylated	25322-69-4	Water flea	Analogous Compound	21 days	NOEC	>=10 mg/l
Propane-1,2-diol, propoxylated	25322-69-4	Activated sludge	Analogous Compound	3 hours	EC50	>1,000 mg/l
Talc	14807-96-6	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
4,4'-Methylenebis[2,6-diethylaniline	13680-35-8	Green algae	Endpoint not reached	72 hours	EC50	>100 mg/l
4,4'-Methylenebis[2,6-diethylaniline	13680-35-8	Activated sludge	Experimental	3 hours	NOEC	1,000 mg/l
4,4'-Methylenebis[2,6-diethylaniline	13680-35-8	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
4,4'-Methylenebis[2,6-diethylaniline	13680-35-8	Zebra Fish	Experimental	96 hours	LC50	1.32 mg/l
4,4'-Methylenebis[2,6-diethylaniline	13680-35-8	Green algae	Experimental	72 hours	NOEC	0.19 mg/l
Propylidynetrimethanol, propoxylated	25723-16-4	Activated sludge	Experimental	3 hours	EC10	>10,000 mg/l
Propylidynetrimethanol, propoxylated	25723-16-4	Green algae	Experimental	72 hours	EC50	>100 mg/l
Propylidynetrimethanol, propoxylated	25723-16-4	Water flea	Experimental	48 hours	EC50	>100 mg/l
Propylidynetrimethanol, propoxylated	25723-16-4	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Propylidynetrimethanol, propoxylated	25723-16-4	Green algae	Experimental	72 hours	NOEC	100 mg/l
Propylidynetrimethanol, propoxylated	25723-16-4	Water flea	Experimental	21 days	NOEC	8.5 mg/l
Zeolites	1318-02-1	African clawed frog	Analogous Compound	96 hours	LC50	1,800 mg/l
Zeolites	1318-02-1	Fathead minnow	Analogous Compound	96 hours	LC50	>680 mg/l
Zeolites	1318-02-1	Green algae	Analogous Compound	72 hours	EC50	130 mg/l
Zeolites	1318-02-1	Sediment organism	Analogous Compound	22 days	EC50	364.9 mg/l
Zeolites	1318-02-1	Water flea	Analogous Compound	48 hours	EC50	>100 mg/l
Zeolites	1318-02-1	Fathead minnow	Analogous Compound	30 days	NOEC	86.7 mg/l
Zeolites	1318-02-1	Green algae	Analogous Compound	72 hours	NOEC	18 mg/l

Zeolites	1318-02-1	Water flea	Analogous Compound	21 days	NOEC	32 mg/l
Zeolites	1318-02-1	Bacteria	Experimental	16 hours	EC50	950 mg/l
Zeolites	1318-02-1	Radish	Experimental	23 days	EC50	4,000 mg/kg (Dry Weight)
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	3388-04-3	Activated sludge	Estimated	30 minutes	IC50	>100 mg/l
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	3388-04-3	Green algae	Estimated	72 hours	EC50	280 mg/l
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	3388-04-3	Rainbow trout	Estimated	96 hours	LC50	180 mg/l
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	3388-04-3	Water flea	Estimated	48 hours	EC50	20 mg/l
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	3388-04-3	Green algae	Estimated	72 hours	NOEC	1 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Polyester resin	Trade Secret	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Propane-1,2-diol, propoxylated	25322-69-4	Experimental Biodegradation	28 days	BOD	93.6 %BOD/ThOD	OECD 301F - Manometric respirometry
Talc	14807-96-6	Data not availbl-insufficient	N/A	N/A	N/A	N/A
4,4'-Methylenebis[2,6-diethylaniline	13680-35-8	Experimental Biodegradation	28 days	BOD	4.18 %BOD/ThOD	OECD 301C - MITI test (I)
Propylidynetrimethanol, propoxylated	25723-16-4	Experimental Biodegradation	28 days	BOD	84 %BOD/ThOD	
Zeolites	1318-02-1	Analogous Compound Hydrolysis		Hydrolytic half-life	60 days (t 1/2)	
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	3388-04-3	Estimated Biodegradation	28 days	BOD	28 %BOD/ThOD	OECD 301D - Closed bottle test
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	3388-04-3	Estimated Hydrolysis		Hydrolytic half-life	6.5 hours (t 1/2)	

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Polyester resin	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Propane-1,2-diol, propoxylated	25322-69-4	Experimental Bioconcentration		Log Kow	≤1.13	EC A.8 Partition Coefficient
Talc	14807-96-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4,4'-Methylenebis[2,6-diethylaniline	13680-35-8	Modeled Bioconcentration		Bioaccumulation factor	2300	Catalogic™
4,4'-Methylenebis[2,6-diethylaniline	13680-35-8	Experimental Bioconcentration		Log Kow	4.4	EC A.8 Partition Coefficient
Propylidynetrimethanol, propoxylated	25723-16-4	Experimental Bioconcentration		Log Kow	1.8	
Zeolites	1318-02-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	3388-04-3	Estimated Bioconcentration		Bioaccumulation factor	2.3	

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
Propane-1,2-diol, propoxylated	25322-69-4	Experimental Mobility in Soil	Koc	<17.8 l/kg	OECD 121 Estim. of Koc by HPLC
4,4'-Methylenebis[2,6-diethylaniline	13680-35-8	Modeled Mobility in Soil	Koc	9,200 l/kg	ACD/Labs ChemSketch™
Propylidynetrimethanol, propoxylated	25723-16-4	Experimental Mobility in Soil	Koc	<18 l/kg	OECD 121 Estim. of Koc by HPLC
2-(3,4-Epoxycyclohexyl)ethyltrimethoxysilane	3388-04-3	Estimated Mobility in Soil	Koc	20 l/kg	Episuite™

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Endocrine disrupting properties

This material does not contain any substances that are assessed to be an endocrine disruptor for environmental effects

12.7. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

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.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)
08 04 10 Waste adhesives and sealants other than those mentioned in 08 04 09
20 01 28 Paint, inks, adhesives and resins other than those mentioned in 20 01 27

SECTION 14: Transportation information

Not hazardous for transportation.

ADR/IMDG/IATA: Not hazardous for transport

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number or ID number	No data available.	No data available.	No data available.
14.2 UN proper shipping name	No data available.	No data available.	No data available.
14.3 Transport hazard class(es)	No data available.	No data available.	No data available.
14.4 Packing group	No data available.	No data available.	No data available.
14.5 Environmental hazards	No data available.	No data available.	No data available.
14.6 Special precautions for user	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.
14.7 Marine Transport in bulk according to IMO instruments	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.
ADR Classification Code	No data available.	No data available.	No data available.
IMDG Segregation Code	No data available.	No data available.	No data available.

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
Zeolites	1318-02-1	Gr. 3: Not classifiable	International Agency for Research on Cancer

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

DIRECTIVE 2012/18/EU
Seveso hazard categories, Annex 1, Part 1
None

Seveso named dangerous substances, Annex 1, Part 2
None

Regulation (EU) No 649/2012
No chemicals listed

15.2. Chemical Safety Assessment
A chemical safety assessment has not been carried out for this substance/mixture in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information

List of relevant H statements

H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Revision information:
Contains statement for sensitizers information was added.
List of sensitizers information was added.
Section 3: Composition/ Information of ingredients table information was modified.
Section 4: First aid for eye contact information information was modified.
Section 4: First aid for skin contact information information was modified.
Section 6: Accidental release personal information information was modified.
Section 7: Precautions safe handling information information was modified.
Section 8: Appropriate Engineering controls information information was modified.
Section 8: glove data value information was added.
Section 8: Occupational exposure limit table information was modified.
Section 8: Personal Protection - Respiratory Information information was deleted.
Section 8: Personal Protection - Skin/body information information was added.
Section 8: Personal Protection - Skin/hand information information was modified.
Section 8: Respiratory protection - recommended respirators guide information was deleted.
Section 8: Respiratory protection - recommended respirators information information was deleted.
Section 8: Respiratory protection information information was added.
Section 8: Skin protection - protective clothing information information was added.
Section 8: Skin protection - recommended gloves text information was added.

Section 9: Vapour density value information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Carcinogenicity Table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Health Effects - Ingestion information information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 11: Health Effects - Skin information information was modified.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Specific Target Organ Toxicity - single exposure text information was added.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was deleted.
Section 12: Component ecotoxicity information information was modified.
Section 12: Mobility in soil information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 15: Carcinogenicity information information was modified.
Section 15: Chemical Safety Assessment information was modified.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was modified.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

3M Ireland MSDSs are available at www.3M.com

Safety Data Sheet

Document group:	10-8546-3	**Version number:**	10.00
Revision date:	25/10/2023	**Supersedes date:**	20/07/2022

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
3M Scotch-Weld Urethane Adhesive EC-3549 B/A Part A

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

Identified uses
Industrial use.

1.3. Details of the supplier of the safety data sheet

Address:	3M Ireland Limited, The Iveagh Building, The Park, Carrickmines, Dublin 18.
Telephone:	+353 1 280 3555
E Mail:	tox.uk@mmm.com
Website:	www.3M.com

1.4. Emergency telephone number
Emergency medical information: 8am-10pm (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland. Telephone Number: +353 (0)1 809 2166

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
CLP REGULATION (EC) No 1272/2008

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.

CLASSIFICATION:
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Respiratory Sensitization, Category 1 - Resp. Sens. 1; H334
Skin Sensitization, Category 1 - Skin Sens. 1; H317
Carcinogenicity, Category 2 - Carc. 2; H351
Specific Target Organ Toxicity-Repeated Exposure, Category 2 - STOT RE 2; H373
Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H335

For full text of H phrases, see Section 16.

2.2. Label elements
CLP REGULATION (EC) No 1272/2008

SIGNAL WORD
DANGER.

Symbols
GHS07 (Exclamation mark) |GHS08 (Health Hazard) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
Polymethylene polyphenylene isocyanate	9016-87-9		10 - 30
Formaldehyde, oligomeric reaction products with aniline and phosgene	32055-14-4	500-079-6	1 - 20
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	227-534-9	1 - 5
4,4'-methylenediphenyl diisocyanate	101-68-8	202-966-0	1 - 5

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.
H351	Suspected of causing cancer.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure: respiratory system.

PRECAUTIONARY STATEMENTS

Prevention:

P261A	Avoid breathing vapours.
P280K	Wear protective gloves and respiratory protection.

Response:

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.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

<=125 ml Hazard statements

H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.

H351	Suspected of causing cancer.

<=125 ml Precautionary statements

Prevention:

P261A	Avoid breathing vapours.
P280K	Wear protective gloves and respiratory protection.

Response:

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.

Information required per Regulation (EU) 2020/1149 as regards diisocyanates:
As from 24 August 2023 adequate training is required before industrial or professional use. Further information can be found at feica.eu/Puinfo

2.3. Other hazards

Persons previously sensitised to isocyanates may develop a cross-sensitisation reaction to other isocyanates.
This material does not contain any substances that are assessed to be a PBT or vPvB

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Urethane Prepolymer - NJTS Reg. No. 04499600-5770P	Trade Secret	15 - 40	Substance not classified as hazardous
Polymethylene polyphenylene isocyanate	(CAS-No.) 9016-87-9	10 - 30	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373
Talc	(CAS-No.) 14807-96-6 (EC-No.) 238-877-9	10 - 30	Substance with a national occupational exposure limit
Formaldehyde, oligomeric reaction products with aniline and phosgene	(CAS-No.) 32055-14-4 (EC-No.) 500-079-6	1 - 20	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373
Zeolites	(CAS-No.) 1318-02-1 (EC-No.) 215-283-8	1 - 5	Substance not classified as hazardous

o-(p-isocyanatobenzyl)phenyl isocyanate	(CAS-No.) 5873-54-1 (EC-No.) 227-534-9	1 - 5	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 Nota 2,C
4,4'-methylenediphenyl diisocyanate	(CAS-No.) 101-68-8 (EC-No.) 202-966-0 (REACH-No.) 01-2119457014-47	1 - 5	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 Nota 2,C

Please see section 16 for the full text of any H statements referred to in this section

Specific Concentration Limits

Ingredient	Identifier(s)	Specific Concentration Limits
o-(p-isocyanatobenzyl)phenyl isocyanate	(CAS-No.) 5873-54-1 (EC-No.) 227-534-9	(C >= 5%) Skin Irrit. 2, H315 (C >= 5%) Eye Irrit. 2, H319 (C >= 0.1%) Resp. Sens. 1, H334 (C >= 5%) STOT SE 3, H335
Formaldehyde, oligomeric reaction products with aniline and phosgene	(CAS-No.) 32055-14-4 (EC-No.) 500-079-6	(C >= 5%) Skin Irrit. 2, H315 (C >= 5%) Eye Irrit. 2, H319 (C >= 0.1%) Resp. Sens. 1, H334 (C >= 5%) STOT SE 3, H335
4,4'-methylenediphenyl diisocyanate	(CAS-No.) 101-68-8 (EC-No.) 202-966-0	(C >= 5%) Skin Irrit. 2, H315 (C >= 5%) Eye Irrit. 2, H319 (C >= 0.1%) Resp. Sens. 1, H334 (C >= 5%) STOT SE 3, H335
Polymethylene polyphenylene isocyanate	(CAS-No.) 9016-87-9	(C >= 5%) Skin Irrit. 2, H315 (C >= 5%) Eye Irrit. 2, H319 (C >= 0.1%) Resp. Sens. 1, H334 (C >= 5%) STOT SE 3, H335

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

SECTION 4: First aid measures

4.1. Description of first aid measures

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

Skin contact
Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms

develop, get medical attention.

Eye contact
Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

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

4.2. Most important symptoms and effects, both acute and delayed
The most important symptoms and effects based on the CLP classification include:
Irritating to the respiratory tract (coughing, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain). Allergic respiratory reaction (difficulty breathing, wheezing, cough, and tightness of chest). Irritation to the skin (localized redness, swelling, itching, and dryness). Allergic skin reaction (redness, swelling, blistering, and itching). Serious irritation to the eyes (significant redness, swelling, pain, tearing, and impaired vision). Target organ effects. See Section 11 for additional details.

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

5.1. Extinguishing media
In case of fire: Use a carbon dioxide or 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
Isocyanates	During combustion.
Carbon monoxide	During combustion.
Carbon dioxide.	During combustion.
Hydrogen cyanide.	During combustion.
Oxides of nitrogen.	During combustion.

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, 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.

6.4. Reference to other sections
Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial/occupational use only. Not for consumer sale or use. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

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

7.3. Specific end use(s)
See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

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
4,4'-methylenediphenyl diisocyanate	101-68-8	Ireland OELs	TWA(as NCO)(8 hours):0.005 ppm;TWA(8 hours):0.005 ppm	as NCO, Respiratory/Dermal Sensitizer
Talc	14807-96-6	Ireland OELs	TWA(Total inhalable dust)(8 hours):10 mg/m3;TWA(as respirable dust)(8 hours):0.8 mg/m3	
Free isocyanates	9016-87-9	Ireland OELs	TWA(8 hours):0.02 mg/m3;STEL(15 minutes):0.07 mg/m3	as NCO
Polymethylene polyphenylene isocyanate	9016-87-9	Manufacturer determined	TWA(inhalable fraction)(8 hours):0.05 mg/m3;CEIL(inhalable fraction):0.1 mg/m3	Dermal Sensitizer, Respiratory Sensitizer

Ireland OELs : Ireland. OELs
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

Biological limit values
No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

Recommended monitoring procedures: Information on recommended monitoring procedures can be obtained from Indust. Inspect./Ministry (IE)

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:
Safety glasses with side shields.
Indirect vented goggles.

Applicable Norms/Standards
Use eye protection conforming to EN 166

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:

Material	Thickness (mm)	Breakthrough Time
Butyl rubber.	0.5	=>8 hours
Neoprene.	0.5	=>8 hours
Nitrile rubber.	0.35	=>8 hours

The glove data presented are based on the substance driving dermal toxicity and the conditions present at the time of testing. Breakthrough time may be altered when the glove is subjected to use conditions that place additional stress on the glove.

Applicable Norms/Standards
Use gloves tested to EN 374

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

Respiratory protection

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

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

Applicable Norms/Standards
Use a respirator conforming to EN 140 or EN 136: filter types A & P

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Paste
Colour	Brown
Odor	Slight Odor
Odour threshold	*No data available.*
Melting point/freezing point	*Not applicable.*
Boiling point/boiling range	>=186 ºC
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Flash point	>=186.1 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*Not applicable.*
Decomposition temperature	*No data available.*
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	17,537 mm²/sec
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Density	1.34 g/ml
Relative density	1.34 [*Ref Std:*WATER=1]
Relative Vapour Density	*No data available.*

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	*No data available.*
Evaporation rate	*Not applicable.*
Molecular weight	*No data available.*
Percent volatile	0 % weight

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 is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

10.5 Incompatible materials
Amines.
Alcohols.

Water
Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.
Strong acids.
Strong bases.
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 agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from internal hazard assessments.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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. 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 localised 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:
Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests. 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	Ingestion		No data available; calculated ATE >5,000 mg/kg
Urethane Prepolymer - NJTS Reg. No. 04499600-5770P	Dermal		LD50 estimated to be > 5,000 mg/kg
Urethane Prepolymer - NJTS Reg. No. 04499600-5770P	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Polymethylene polyphenylene isocyanate	Dermal	Rabbit	LD50 > 5,000 mg/kg
Polymethylene polyphenylene isocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
Polymethylene polyphenylene isocyanate	Ingestion	Rat	LD50 31,600 mg/kg
Talc	Dermal		LD50 estimated to be > 5,000 mg/kg
Talc	Ingestion		LD50 estimated to be > 5,000 mg/kg
Formaldehyde, oligomeric reaction products with aniline and phosgene	Dermal	Rabbit	LD50 > 5,000 mg/kg
Formaldehyde, oligomeric reaction products with aniline and phosgene	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
Formaldehyde, oligomeric reaction products with aniline and phosgene	Ingestion	Rat	LD50 31,600 mg/kg
o-(p-isocyanatobenzyl)phenyl isocyanate	Dermal	Rabbit	LD50 > 5,000 mg/kg
4,4'-methylenediphenyl diisocyanate	Dermal	Rabbit	LD50 > 5,000 mg/kg
o-(p-isocyanatobenzyl)phenyl isocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
o-(p-isocyanatobenzyl)phenyl isocyanate	Ingestion	Rat	LD50 31,600 mg/kg
4,4'-methylenediphenyl diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
4,4'-methylenediphenyl diisocyanate	Ingestion	Rat	LD50 31,600 mg/kg
Zeolites	Dermal	Rabbit	LD50 > 2,000 mg/kg
Zeolites	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4.57 mg/l
Zeolites	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Polymethylene polyphenylene isocyanate	official classification	Irritant
Talc	Rabbit	No significant irritation
Formaldehyde, oligomeric reaction products with aniline and phosgene	official classification	Irritant
o-(p-isocyanatobenzyl)phenyl isocyanate	official classification	Irritant
4,4'-methylenediphenyl diisocyanate	official classification	Irritant
Zeolites	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Polymethylene polyphenylene isocyanate	official classification	Severe irritant

Talc	Rabbit	No significant irritation
Formaldehyde, oligomeric reaction products with aniline and phosgene	official classification	Severe irritant
o-(p-isocyanatobenzyl)phenyl isocyanate	official classification	Severe irritant
4,4'-methylenediphenyl diisocyanate	official classification	Severe irritant
Zeolites	Rabbit	Mild irritant

Skin Sensitisation

Name	Species	Value
Polymethylene polyphenylene isocyanate	official classification	Sensitising
Formaldehyde, oligomeric reaction products with aniline and phosgene	official classification	Sensitising
o-(p-isocyanatobenzyl)phenyl isocyanate	official classification	Sensitising
4,4'-methylenediphenyl diisocyanate	official classification	Sensitising

Respiratory Sensitisation

Name	Species	Value
Polymethylene polyphenylene isocyanate	Human	Sensitising
Talc	Human	Not classified
Formaldehyde, oligomeric reaction products with aniline and phosgene	Human	Sensitising
o-(p-isocyanatobenzyl)phenyl isocyanate	Human	Sensitising
4,4'-methylenediphenyl diisocyanate	Human	Sensitising

Germ Cell Mutagenicity

Name	Route	Value
Polymethylene polyphenylene isocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Talc	In Vitro	Not mutagenic
Talc	In vivo	Not mutagenic
Formaldehyde, oligomeric reaction products with aniline and phosgene	In Vitro	Some positive data exist, but the data are not sufficient for classification
o-(p-isocyanatobenzyl)phenyl isocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification
4,4'-methylenediphenyl diisocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Polymethylene polyphenylene isocyanate	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Talc	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Formaldehyde, oligomeric reaction products with aniline and phosgene	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
o-(p-isocyanatobenzyl)phenyl isocyanate	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
4,4'-methylenediphenyl diisocyanate	Inhalation	Rat	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
Polymethylene polyphenylene isocyanate	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
Talc	Ingestion	Not classified for development	Rat	NOAEL 1,600 mg/kg	during organogenesis
Formaldehyde, oligomeric reaction products with aniline and phosgene	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
o-(p-isocyanatobenzyl)phenyl isocyanate	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
4,4'-methylenediphenyl diisocyanate	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Polymethylene polyphenylene isocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
Formaldehyde, oligomeric reaction products with aniline and phosgene	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
o-(p-isocyanatobenzyl)phenyl isocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
4,4'-methylenediphenyl diisocyanate	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
Polymethylene polyphenylene isocyanate	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
Talc	Inhalation	pneumoconiosis	Repeated and prolonged exposure to large amounts of talc dust can cause lung injury	Human	NOAEL Not available	occupational exposure
Talc	Inhalation	pulmonary fibrosis | respiratory system	Not classified	Rat	NOAEL 18 mg/m³	113 weeks
Formaldehyde, oligomeric reaction products with aniline and phosgene	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
o-(p-isocyanatobenzyl)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	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks

Aspiration Hazard

For the component/components, either no data is currently available or the data is 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.

11.2. Information on other hazards

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
Urethane Prepolymer - NJTS Reg. No. 04499600-5770P	Trade Secret	Water flea	Estimated	24 hours	EC50	>100 mg/l
Urethane Prepolymer - NJTS Reg. No. 04499600-5770P	Trade Secret	Zebra Fish	Estimated	24 hours	LC50	>100 mg/l
Polymethylene polyphenylene isocyanate	9016-87-9	Green algae	Analogous Compound	72 hours	No tox obs at lmt of water sol	>100 mg/l
Polymethylene polyphenylene isocyanate	9016-87-9	Water flea	Analogous Compound	24 hours	No tox obs at lmt of water sol	>100 mg/l
Polymethylene polyphenylene isocyanate	9016-87-9	Green algae	Analogous Compound	72 hours	No tox obs at lmt of water sol	>100 mg/l
Polymethylene polyphenylene isocyanate	9016-87-9	Activated sludge	Analogous Compound	3 hours	EC50	>100 mg/l
Talc	14807-96-6	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Formaldehyde, oligomeric reaction products with aniline and phosgene	32055-14-4	Green algae	Estimated	72 hours	EL50	>100 mg/l
Formaldehyde, oligomeric reaction products with aniline and phosgene	32055-14-4	Water flea	Estimated	24 hours	EC50	>100 mg/l
Formaldehyde, oligomeric reaction products with aniline and phosgene	32055-14-4	Green algae	Estimated	72 hours	NOEL	100 mg/l
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Activated sludge	Analogous Compound	3 hours	EC50	>100 mg/l
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Green algae	Analogous Compound	72 hours	No tox obs at lmt of water sol	>100 mg/l
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Water flea	Analogous Compound	24 hours	No tox obs at lmt of water sol	>100 mg/l
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Zebra Fish	Analogous Compound	96 hours	No tox obs at lmt of water sol	>100 mg/l
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Activated sludge	Estimated	3 hours	EC50	>100 mg/l
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Green algae	Estimated	72 hours	EC50	>1,640 mg/l

o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Water flea	Estimated	24 hours	EC50	>1,000 mg/l
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Zebra Fish	Estimated	96 hours	LC50	>1,000 mg/l
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Green algae	Analogous Compound	72 hours	NOEL	100 mg/l
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Green algae	Estimated	72 hours	NOEC	1,640 mg/l
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Water flea	Estimated	21 days	NOEC	10 mg/l
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Water flea	Experimental	21 days	NOEC	100 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Activated sludge	Analogous Compound	3 hours	EC50	>100 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Green algae	Analogous Compound	72 hours	No tox obs at lmt of water sol	>100 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Water flea	Analogous Compound	24 hours	No tox obs at lmt of water sol	>100 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Zebra Fish	Analogous Compound	96 hours	No tox obs at lmt of water sol	>100 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Activated sludge	Estimated	3 hours	EC50	>100 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Green algae	Estimated	72 hours	EC50	>1,640 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Water flea	Estimated	24 hours	EC50	>1,000 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Zebra Fish	Estimated	96 hours	LC50	>1,000 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Green algae	Analogous Compound	72 hours	NOEL	100 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Green algae	Estimated	72 hours	NOEC	1,640 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Water flea	Estimated	21 days	NOEC	10 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Water flea	Experimental	21 days	NOEC	100 mg/l
Zeolites	1318-02-1	African clawed frog	Analogous Compound	96 hours	LC50	1,800 mg/l
Zeolites	1318-02-1	Fathead minnow	Analogous Compound	96 hours	LC50	>680 mg/l
Zeolites	1318-02-1	Green algae	Analogous Compound	72 hours	EC50	130 mg/l
Zeolites	1318-02-1	Sediment organism	Analogous Compound	22 days	EC50	364.9 mg/l
Zeolites	1318-02-1	Water flea	Analogous Compound	48 hours	EC50	>100 mg/l
Zeolites	1318-02-1	Fathead minnow	Analogous Compound	30 days	NOEC	86.7 mg/l
Zeolites	1318-02-1	Green algae	Analogous Compound	72 hours	NOEC	18 mg/l
Zeolites	1318-02-1	Water flea	Analogous Compound	21 days	NOEC	32 mg/l
Zeolites	1318-02-1	Bacteria	Experimental	16 hours	EC50	950 mg/l
Zeolites	1318-02-1	Radish	Experimental	23 days	EC50	4,000 mg/kg (Dry Weight)

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol

Urethane Prepolymer - NJTS Reg. No. 04499600-5770P	Trade Secret	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Polymethylene polyphenylene isocyanate	9016-87-9	Analogous Compound Aquatic Inherent Biodegrad.	28 days	BOD	0 %BOD/ThOD	OECD 302C - Modified MITI (II)
Polymethylene polyphenylene isocyanate	9016-87-9	Analogous Compound Hydrolysis		Hydrolytic half-life	20 hours (t 1/2)	
Talc	14807-96-6	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Formaldehyde, oligomeric reaction products with aniline and phosgene	32055-14-4	Data not availbl-insufficient	N/A	N/A	N/A	N/A
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Estimated Hydrolysis		Hydrolytic half-life	20 hours (t 1/2)	
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Data not availbl-insufficient	N/A	N/A	N/A	N/A
4,4'-methylenediphenyl diisocyanate	101-68-8	Estimated Hydrolysis		Hydrolytic half-life	20 hours (t 1/2)	
4,4'-methylenediphenyl diisocyanate	101-68-8	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Zeolites	1318-02-1	Analogous Compound Hydrolysis		Hydrolytic half-life	60 days (t 1/2)	

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Urethane Prepolymer - NJTS Reg. No. 04499600-5770P	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Polymethylene polyphenylene isocyanate	9016-87-9	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	200	OECD305-Bioconcentration
Polymethylene polyphenylene isocyanate	9016-87-9	Analogous Compound Bioconcentration		Log Kow	4.51	
Talc	14807-96-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Formaldehyde, oligomeric reaction products with aniline and phosgene	32055-14-4	Estimated Bioconcentration	28 days	Bioaccumulation factor	200	OECD305-Bioconcentration
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	200	
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Experimental BCF - Fish	28 days	Bioaccumulation factor	200	OECD305-Bioconcentration
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Experimental Bioconcentration		Log Kow	4.51	OECD 117 log Kow HPLC method
4,4'-methylenediphenyl diisocyanate	101-68-8	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	200	
4,4'-methylenediphenyl diisocyanate	101-68-8	Experimental BCF - Fish	28 days	Bioaccumulation factor	200	OECD305-Bioconcentration
4,4'-methylenediphenyl diisocyanate	101-68-8	Experimental Bioconcentration		Log Kow	4.51	OECD 117 log Kow HPLC method
Zeolites	1318-02-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Modeled Mobility in Soil	Koc	300,000 l/kg	Episuite™
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Estimated Mobility in Soil	Koc	34,000 l/kg	Episuite™
4,4'-methylenediphenyl diisocyanate	101-68-8	Modeled Mobility in Soil	Koc	300,000 l/kg	Episuite™
4,4'-methylenediphenyl diisocyanate	101-68-8	Estimated Mobility in Soil	Koc	34,000 l/kg	Episuite™

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Endocrine disrupting properties

This material does not contain any substances that are assessed to be an endocrine disruptor for environmental effects

12.7. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

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.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances
20 01 27* Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

Not hazardous for transportation.

ADR/IATA/IMDG: Not restricted for transport.

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)

14.1 UN number or ID number	No data available.	No data available.	No data available.
14.2 UN proper shipping name	No data available.	No data available.	No data available.
14.3 Transport hazard class(es)	No data available.	No data available.	No data available.
14.4 Packing group	No data available.	No data available.	No data available.
14.5 Environmental hazards	No data available.	No data available.	No data available.
14.6 Special precautions for user	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.
14.7 Marine Transport in bulk according to IMO instruments	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.
ADR Classification Code	No data available.	No data available.	No data available.
IMDG Segregation Code	No data available.	No data available.	No data available.

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Carc. 2	Regulation (EC) No. 1272/2008, Table 3.1
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1	Gr. 3: Not classifiable	International Agency for Research on Cancer
Formaldehyde, oligomeric reaction products with aniline and phosgene	32055-14-4	Carc. 2	3M classified according to Regulation (EC) No 1272/2008
4,4'-methylenediphenyl diisocyanate	101-68-8	Carc. 2	Regulation (EC) No. 1272/2008, Table 3.1

4,4'-methylenediphenyl diisocyanate	101-68-8	Gr. 3: Not classifiable	International Agency for Research on Cancer
Polymethylene polyphenylene isocyanate	9016-87-9	Carc. 2	3M classified according to Regulation (EC) No 1272/2008
Polymethylene polyphenylene isocyanate	9016-87-9	Gr. 3: Not classifiable	International Agency for Research on Cancer
Zeolites	1318-02-1	Gr. 3: Not classifiable	International Agency for Research on Cancer

Restrictions on the manufacture, placing on the market and use:
The following substance(s) contained in this product is/are subject through Annex XVII of REACH regulation to restrictions on the manufacture, placing on the market and use when present in certain dangerous substances, mixtures and articles. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

Ingredient	CAS Nbr
o-(p-isocyanatobenzyl)phenyl isocyanate	5873-54-1
4,4'-methylenediphenyl diisocyanate	101-68-8
Polymethylene polyphenylene isocyanate	9016-87-9

Restriction status: listed in REACH Annex XVII
Restricted uses: See Annex XVII to Regulation (EC) No 1907/2006 for Conditions of Restriction

Global inventory status
Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

DIRECTIVE 2012/18/EU
Seveso hazard categories, Annex 1, Part 1
None

Seveso named dangerous substances, Annex 1, Part 2
None

Regulation (EU) No 649/2012
No chemicals listed

15.2. Chemical Safety Assessment
A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information

List of relevant H statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure: respiratory system.

Revision information:
Section 2: <125ml Precautionary - Prevention information was modified.
Label: CLP Precautionary - Prevention information was modified.
Section 8: Eye/face protection information information was modified.
Section 8: glove data value information was added.
Section 8: glove data value information was modified.
Section 8: Occupational exposure limit table information was modified.
Section 8: Personal Protection - Skin/hand information information was modified.
Section 8: Skin protection - protective clothing information information was modified.
Section 9: Vapour density value information was modified.
Section 11: Acute Toxicity table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Mobility in soil information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

3M Ireland MSDSs are available at www.3M.com