



Safety Data Sheet

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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(TM) Fast Cure Glass Adhesive P/N 08613, 08628, 08629

Product Identification Numbers

FI-3000-0025-9

7000077198

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

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
Hazardous to the Aquatic Environment (Chronic), Category 3 - Aquatic Chronic 3; H412

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

DANGER.

Symbols

GHS08 (Health Hazard) |

Pictograms



Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
4,4'-methylenediphenyl diisocyanate	101-68-8	202-966-0	< 1

HAZARD STATEMENTS:

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H412	Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P261A Avoid breathing vapours.

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.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.

Contains 21% of components with unknown hazards to the aquatic environment.

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]
Polyurethane prepolymer	Trade Secret	15 - 40	Substance not classified as hazardous
Carbon black	(CAS-No.) 1333-86-4 (EC-No.) 215-609-9	10 - 30	Substance with a national occupational exposure limit
C14-17 alkanes, sec-mono- and disulfonic acids, phenyl esters	(EC-No.) 701-257-8	20 - 30	Substance not classified as hazardous
Kaolin, calcined	(CAS-No.) 92704-41-1 (EC-No.) 296-473-8	7 - 13	Substance not classified as hazardous
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	(EC-No.) 926-141-6	1 - 5	Asp. Tox. 1, H304 EUH066
dibutyltin dichloride	(CAS-No.) 683-18-1 (EC-No.) 211-670-0	< 0.1	Acute Tox. 2, H330 Acute Tox. 3, H301 Acute Tox. 4, H312 Skin Corr. 1B, H314 Eye Dam. 1, H318 Muta. 2, H341 Repr. 1B, H360FD STOT RE 1, H372 Aquatic Acute 1, H400,M=10 Aquatic Chronic 1, H410,M=10
4,4'-methylenediphenyl diisocyanate	(CAS-No.) 101-68-8 (EC-No.) 202-966-0	< 1	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
TRIBUTYLtin CHLORIDE (T; R:21-25-36/38-48/23/25)	(CAS-No.) 1461-22-9 (EC-No.) 215-958-7	< 0.001	Aquatic Acute 1, H400,M=1000 Aquatic Chronic 1, H410,M=1000

Any entry in the Identifier(s) column that begins with the numbers 6, 7, 8, or 9 are a Provisional List Number provided by ECHA pending publication of the official EC Inventory Number for the substance.

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
dibutyltin dichloride	(CAS-No.) 683-18-1 (EC-No.) 211-670-0	(C >= 5%) Skin Corr. 1B, H314 (0.01% <= C < 5%) Skin Irrit. 2, H315 (C >= 3%) Eye Dam. 1, H318

		(0.01% ≤ C < 3%) Eye Irrit. 2, H319
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

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

No need for first aid is anticipated.

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:

Allergic respiratory reaction (difficulty breathing, wheezing, cough, and tightness of chest). Irritation to the skin (localized redness, swelling, itching, and dryness). Serious irritation to the eyes (significant redness, swelling, pain, tearing, and impaired vision).

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 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

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance

Isocyanates
Carbon monoxide
Carbon dioxide.
Hydrogen cyanide.
Oxides of nitrogen.

Condition

During combustion.
During combustion.
During combustion.
During combustion.
During combustion.

5.3. Advice for fire-fighters

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

6.3. Methods and material for containment and cleaning up

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. 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

Avoid breathing of vapours created during the cure cycle. Do not use in a confined area with minimal air exchange. 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

Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from heat. 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	Respiratory/Dermal Sensitizer
Carbon black	1333-86-4	Ireland OELs	TWA(inhalable fraction)(8 hours):3 mg/m ³	

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

Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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.

Gloves made from the following material(s) are recommended:

Material	Thickness (mm)	Breakthrough Time
Neoprene.	0.5	=>8 hours
Nitrile rubber.	0.35	=>8 hours
Natural rubber.	0.5	=>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: 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	Solid.
Specific Physical Form:	Paste
Colour	Black
Odor	Slight Odorless
Odour threshold	<i>No data available.</i>
Melting point/freezing point	<i>No data available.</i>
Boiling point/boiling range	>= 192 °C
Flammability (solid, gas)	Not classified
Flammable Limits(LEL)	0.6 % volume
Flammable Limits(UEL)	7 % volume
Flash point	>= 70 °C [Test Method: Closed Cup]
Autoignition temperature	>= 200 °C
Decomposition temperature	140 °C
pH	<i>substance/mixture is non-soluble (in water)</i>
Kinematic Viscosity	<i>No data available.</i>
Water solubility	Immiscible
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Vapour pressure	<i>No data available.</i>
Density	1.2 g/cm ³ [@ 20 °C]
Relative density	1.23 [Ref Std: WATER=1]
Relative Vapour Density	6 [Ref Std: AIR=1]

9.2. Other information**9.2.2 Other safety characteristics**

EU Volatile Organic Compounds	<i>No data available.</i>
Evaporation rate	<i>No data available.</i>
Percent volatile	2.5 %

SECTION 10: Stability and reactivity**10.1 Reactivity**

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

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

Heat.

Sparks and/or flames.

10.5 Incompatible materials

Accelerators

Aluminium or magnesium powder and high/shear temperature conditions.

Alcohols.

Alkali and alkaline earth metals.

Amines.

Strong acids.

Strong bases.

Strong oxidising agents.

Water

Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.

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

Allergic respiratory reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

Skin contact

Contact with the skin during product use is not expected to result in significant irritation. 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

No known health effects.

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-Vapour(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
C14-17 alkanes, sec-mono- and disulfonic acids, phenyl esters	Dermal	Rat	LD50 > 1,000 mg/kg
C14-17 alkanes, sec-mono- and disulfonic acids, phenyl esters	Ingestion	Rat	LD50 > 5,000 mg/kg
Carbon black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon black	Ingestion	Rat	LD50 > 8,000 mg/kg

Kaolin, calcined	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.07 mg/l
Kaolin, calcined	Dermal	similar compounds	LD50 > 5,000 mg/kg
Kaolin, calcined	Ingestion	similar compounds	LD50 > 5,000 mg/kg
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Inhalation-Vapour	Professional judgement	LC50 estimated to be 20 - 50 mg/l
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Dermal	Rabbit	LD50 > 5,000 mg/kg
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Ingestion	Rat	LD50 > 5,000 mg/kg
4,4'-methylenediphenyl diisocyanate	Dermal	Rabbit	LD50 > 5,000 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

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Carbon black	Rabbit	No significant irritation
Kaolin, calcined	Rabbit	No significant irritation
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Rabbit	Minimal irritation
4,4'-methylenediphenyl diisocyanate	official classification	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
Carbon black	Rabbit	No significant irritation
Kaolin, calcined	Rabbit	No significant irritation
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Rabbit	Mild irritant
4,4'-methylenediphenyl diisocyanate	official classification	Severe irritant

Skin Sensitisation

Name	Species	Value
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Guinea pig	Not classified
4,4'-methylenediphenyl diisocyanate	official classification	Sensitising

Respiratory Sensitisation

Name	Species	Value
4,4'-methylenediphenyl diisocyanate	Human	Sensitising

Germ Cell Mutagenicity

Name	Route	Value
Carbon black	In Vitro	Not mutagenic

Carbon black	In vivo	Some positive data exist, but the data are not sufficient for classification
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	In Vitro	Not mutagenic
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	In vivo	Not mutagenic
4,4'-methylenediphenyl diisocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not specified.	Not available	Not carcinogenic
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
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not specified.	Not classified for female reproduction	Rat	NOAEL Not available	1 generation
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not specified.	Not classified for male reproduction	Rat	NOAEL Not available	1 generation
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not specified.	Not classified for development	Rat	NOAEL Not available	1 generation
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
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
Carbon black	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Kaolin, calcined	Inhalation	pneumoconiosis	Not classified	similar compounds	NOAEL not available	occupational exposure
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

Name	Value
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Aspiration hazard

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
Polyurethane prepolymer	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	NA
C14-17 alkanes, sec-mono- and disulfonic acids, phenyl esters	701-257-8	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Carbon black	1333-86-4	Activated sludge	Experimental	3 hours	EC50	>=100 mg/l
Carbon black	1333-86-4	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Kaolin, calcined	92704-41-1	Bacteria	Estimated	16 hours	EC10	1,400 mg/l
Kaolin, calcined	92704-41-1	Green algae	Estimated	72 hours	EC50	2,500 mg/l
Kaolin, calcined	92704-41-1	Water flea	Estimated	48 hours	EC50	>100 mg/l
Kaolin, calcined	92704-41-1	Zebra Fish	Estimated	96 hours	LC50	>100 mg/l
Kaolin, calcined	92704-41-1	Green algae	Estimated	72 hours	EC10	41 mg/l
Kaolin, calcined	92704-41-1	Rainbow trout	Estimated	30 days	NOEC	100 mg/l
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	926-141-6	Green algae	Experimental	72 hours	EL50	>1,000 mg/l
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	926-141-6	Rainbow trout	Experimental	96 hours	LL50	>1,000 mg/l
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	926-141-6	Water flea	Experimental	48 hours	EL50	>1,000 mg/l
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	926-141-6	Green algae	Experimental	72 hours	NOEL	1,000 mg/l
dibutyltin dichloride	683-18-1	Algae or other aquatic plants	Experimental	96 hours	ErC50	0.043 mg/l
dibutyltin dichloride	683-18-1	Water flea	Experimental	48 hours	EC50	0.84 mg/l
dibutyltin dichloride	683-18-1	Medaka	Experimental	28 days	NOEC	1.8 mg/l
dibutyltin dichloride	683-18-1	Water flea	Experimental	21 days	NOEC	0.015 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	Estimated	72 hours	NOEC	1,640 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Water flea	Estimated	21 days	NOEC	10 mg/l
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Copepod	Laboratory	48 hours	LC50	0.00027 mg/l
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Diatom	Laboratory	72 hours	EC50	0.000987 mg/l
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Inland Silverside	Laboratory	96 hours	LC50	0.003 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Polyurethane prepolymer	Trade Secret	Data not availbl-insufficient	N/A	N/A	N/A	N/A
C14-17 alkanes, sec-mono-and disulfonic acids, phenyl esters	701-257-8	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Carbon black	1333-86-4	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Kaolin, calcined	92704-41-1	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	926-141-6	Experimental Biodegradation	28 days	BOD	69 %BOD/ThO D	OECD 301F - Manometric respirometry
dibutyltin dichloride	683-18-1	Experimental Biodegradation	28 days	CO2 evolution	5.5 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
4,4'-methylenediphenyl diisocyanate	101-68-8	Estimated Hydrolysis		Hydrolytic half-life	20 hours (t 1/2)	
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Experimental Biodegradation	28 days	BOD	0 %BOD/ThO D	OECD 301F - Manometric respirometry

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Polyurethane prepolymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
C14-17 alkanes, sec-mono-and disulfonic acids, phenyl esters	701-257-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Carbon black	1333-86-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Kaolin, calcined	92704-41-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	926-141-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
dibutyltin dichloride	683-18-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4,4'-methylenediphenyl diisocyanate	101-68-8	Experimental BCF - Fish	28 days	Bioaccumulation factor	200	OECD305-Bioconcentration
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Experimental BCF - Fish	10 days	Bioaccumulation factor	7950	

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
dibutyltin dichloride	683-18-1	Modeled Mobility in Soil	Koc	1,900 l/kg	Episuite™
4,4'-methylenediphenyl diisocyanate	101-68-8	Estimated Mobility in Soil	Koc	34,000 l/kg	Episuite™
TRIBUTYL TIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Modeled Mobility in Soil	Koc	12,000 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.

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, utilize an acceptable permitted waste disposal facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

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.

	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

<u>Ingredient</u>	<u>CAS Nbr</u>	<u>Classification</u>	<u>Regulation</u>
Carbon black	1333-86-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer Regulation (EC) No. 1272/2008, Table 3.1
4,4'-methylenediphenyl diisocyanate	101-68-8	Carc. 2	International Agency for Research on Cancer
4,4'-methylenediphenyl diisocyanate	101-68-8	Gr. 3: Not classifiable	

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.

<u>Ingredient</u>	<u>CAS Nbr</u>
4,4'-methylenediphenyl diisocyanate	101-68-8

Restriction status: listed in REACH Annex XVII

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

Authorization status under REACH:

The following substance/s contained in this product might be or is/are subject to authorization in accordance with REACH:

Ingredient**CAS Nbr**

dibutyltin dichloride

683-18-1

Authorization status: listed in the Candidate List of Substances of Very High Concern for Authorization

Global inventory status

Contact 3M for more information.

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Seveso hazard categories, Annex 1, Part 1

None

Seveso named dangerous substances, Annex 1, Part 2

Dangerous Substances	Identifier(s)	Qualifying quantity (tonnes) for the application of	
		Lower-tier requirements	Upper-tier requirements
dibutyltin dichloride	683-18-1	50	200
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	100	200

Regulation (EU) No 649/2012

Chemical	Identifier(s)	Annex I
dibutyltin dichloride	683-18-1	Part 1
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Part 1 and Part 3

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**

EUH066	Repeated exposure may cause skin dryness or cracking.
H301	Toxic if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.

H351	Suspected of causing cancer.
H360FD	May damage fertility. May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Revision information:

Section 9: Vapour density value 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