Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the REACH Regulation (1907/2006), as amended for GB.

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 United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone:	+44 (0)1344 858 000
E Mail:	ner-productstewardship@mmm.com
Website:	www.3M.com/uk

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

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

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
The retained CLP Regulation (EU) No 1272/2008 as amended for Great Britain

SIGNAL WORD
DANGER.

Symbols
GHS08 (Health Hazard) |

Pictograms

Ingredient	CAS Nbr	EC No.	% by Wt
Polyurethane prepolymer	Trade Secret		15 - 40
C14-17 alkanes, sec-mono- and disulfonic acids, phenyl esters		701-257-8	20 - 30
Carbon black	1333-86-4	215-609-9	10 - 30
Kaolin, calcined	92704-41-1	296-473-8	7 - 13
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics		926-141-6	1 - 5
4,4'-methylenediphenyl diisocyanate	101-68-8	202-966-0	< 1
dibutyltin dichloride	683-18-1	211-670-0	< 0.1
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	215-958-7	< 0.001

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.

Information required per Regulation (EU) 2020/1149, amendment to REACH Regualtion (1907/2006) as amended for

Great Britain, 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], as amended for GB
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
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
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 Skin Sens. 1B, H317 STOT SE 1, H370 Repr. 1B, H360FD
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	(CAS-No.) 1461-22-9 (EC-No.) 215-958-7	< 0.001	Acute Tox. 3, H311 Acute Tox. 3, H301

			Skin Irrit. 2, H315 Repr. 1B, H360FD STOT RE 1, H372 Acute Tox. 1, H330 Eye Dam. 1, H318 Skin Sens. 1A, H317 STOT SE 1, H370 Aquatic Acute 1, H400,M=1000 Aquatic Chronic 1, H410,M=1000 Repr. 1B, H360FD

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
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	(CAS-No.) 1461-22-9 (EC-No.) 215-958-7	(C >= 1%) Skin Irrit. 2, H315 (C >= 1%) STOT RE 1, H372 (0.25% =< C < 1%) STOT RE 2, H373

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
The most important symptoms and effects based on the GB 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	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
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
Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS. 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.

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
Free isocyanates	101-68-8	UK HSE	TWA(as NCO):0.02 mg/m3;STEL(as NCO):0.07 mg/m3	Respiratory Sensitizer
Carbon black	1333-86-4	UK HSE	TWA: 3.5 mg/m³; STEL: 7 mg/m³	

UK HSE : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

Biological limit values

Ingredient	CAS Nbr	Agency	Determinant	Biological Specimen	Sampling Time	Value	Additional comments
Free isocyanates	101-68-8	UK EH40 BMGVs	Isocyanate-derived diamine	Creatinine in urine	EPE	1 umol/mol	

UK EH40 BMGVs : UK. EH40 Biological Monitoring Guidance Values (BMGVs)
EPE: At the end of the period of exposure.

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 (e.g., spraying, high splash potential, etc.), then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

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	*No data available.*
Melting point/freezing point	*No data available.*
Boiling point/boiling range	>= 192 ºC
Flammability	Not applicable.
Flammable Limits(LEL)	0.6 % volume
Flammable Limits(UEL)	7 % volume
Flash point	>= 70 ºC [*Test Method:*Closed Cup]
Autoignition temperature	>= 200 ºC
Decomposition temperature	140 ºC
pH	*substance/mixture is non-soluble (in water)*
Kinematic Viscosity	*No data available.*
Water solubility	Immiscible

Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Vapour pressure	*No data available.*
Density	1.2 g/cm3 [@ 20 ºC]
Relative density	1.23 [*Ref Std:*WATER=1]
Relative Vapour Density	6 [*Ref Std:*AIR=1]
Particle Characteristics	
Primary particle dia-median	18 - 61 nm (*Carbon black*)
Shape of Primary particle	Other (see details) (*Carbon black*)
Specific surface area	21 - 1,200 m2/g (*Carbon black*)

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds	*No data available.*
Evaporation rate	*No data available.*
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 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 3M assessments.

11.1. Information on hazard classes as defined in the retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain.

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	Ingestion	Rat	LD50 > 15,000 mg/kg
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Dermal	similar compounds	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
dibutyltin dichloride	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.059 mg/l
dibutyltin dichloride	Ingestion	Rat	LD50 219 mg/kg
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	Dermal	Rabbit	LD50 500 mg/kg
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 Not available.
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	Ingestion	Rat	LD50 101 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	similar compounds	Mild irritant
4,4'-methylenediphenyl diisocyanate	official classification	Irritant
dibutyltin dichloride	Multiple animal species	Corrosive
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	Rabbit	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	similar compounds	No significant irritation
4,4'-methylenediphenyl diisocyanate	official classification	Severe irritant
dibutyltin dichloride	Rabbit	Corrosive
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	similar compounds	Not classified
4,4'-methylenediphenyl diisocyanate	Mouse	Sensitising
dibutyltin dichloride	similar compounds	Sensitising
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	Mouse	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
4,4'-methylenediphenyl diisocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification
dibutyltin dichloride	In Vitro	Some positive data exist, but the data are not sufficient for classification
dibutyltin dichloride	In vivo	Mutagenic
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	In Vitro	Not mutagenic
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	In vivo	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.
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
4,4'-methylenediphenyl diisocyanate	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
dibutyltin dichloride	Ingestion	Not classified for male reproduction	Rat	NOAEL 12 mg/kg/day	28 days
dibutyltin dichloride	Ingestion	Toxic to female reproduction	Rat	NOAEL 1.7 mg/kg/day	premating into lactation
dibutyltin dichloride	Ingestion	Toxic to development	Rat	NOAEL 1.7 mg/kg/day	premating into lactation
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	Ingestion	Not classified for male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	Ingestion	Toxic to female reproduction	Rat	NOAEL 2 mg/kg/day	2 generation
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	Ingestion	Toxic to development	Rat	LOAEL 0.025 mg/kg/day	weeks

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
4,4'-methylenediphenyl diisocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
dibutyltin dichloride	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
dibutyltin dichloride	Ingestion	immune system	Causes damage to organs	Rat	LOAEL 5 mg/kg	
TRIBUTYLTIN CHLORIDE (T; R:21-25-	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for	similar health	NOAEL Not available.	

36/38-48/23/25)			classification	hazards		
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	Ingestion	immune system	Causes damage to organs	Rat	NOAEL 5 mg/kg	

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
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Inhalation	liver	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Inhalation	kidney and/or bladder	Not classified	Rat	LOAEL 1.5 mg/l	13 weeks
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 100 mg/kg/day	13 weeks
Hydrocarbons, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Ingestion	hematopoietic system | eyes	Not classified	Rat	NOAEL 1,000 mg/kg/day	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
dibutyltin dichloride	Ingestion	immune system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.3 mg/kg/day	28 days
dibutyltin dichloride	Ingestion	hematopoietic system | liver | nervous system | kidney and/or bladder	Not classified	Rat	NOAEL 12 mg/kg/day	28 days
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	Ingestion	liver | immune system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.36 mg/kg/day	28 days
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	Ingestion	kidney and/or bladder | hematopoietic system	Not classified	Rat	NOAEL 1.5 mg/kg/day	28 days

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 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	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Carbon black	1333-86-4	Zebra Fish	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Carbon black	1333-86-4	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	100 mg/l
Carbon black	1333-86-4	Activated sludge	Experimental	3 hours	NOEC	>800 mg/l
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
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
dibutyltin dichloride	683-18-1	Algae or other aquatic plants	Experimental	96 hours	ErC50	0.0427 mg/l
dibutyltin dichloride	683-18-1	Water flea	Experimental	48 hours	EC50	0.843 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	0.0105 mg/l
dibutyltin dichloride	683-18-1	Activated sludge	Experimental	24 hours	IC50	11.5 mg/l
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Copepod	Estimated	48 hours	LC50	0.0012 mg/l
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Diatom	Experimental	72 hours	ErC50	0.000987 mg/l
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Green algae	Experimental	96 hours	ErC50	0.0124 mg/l
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Inland Silverside	Experimental	96 hours	LC50	0.003 mg/l
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Water flea	Experimental	48 hours	EC50	0.0098 mg/l
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Zebra Fish	Experimental	96 hours	LC50	0.0079 mg/l
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Green algae	Experimental	96 hours	NOEC	0.0012 mg/l
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Rainbow trout	Experimental	110 days	NOEC	.00004 mg/l
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Redworm	Experimental	N/A	EC50	1.3 mg/kg (Dry Weight)
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Soil microbes	Experimental	6 hours	EC50	11 mg/l
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Springtail	Experimental	N/A	EC50	11 mg/kg (Dry Weight)

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,	701-257-8	Data not availbl-	N/A	N/A	N/A	N/A

sec-mono- and disulfonic acids, phenyl esters		insufficient				
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/ThOD	OECD 301F - Manometric respirometry
4,4'-methylenediphenyl diisocyanate	101-68-8	Estimated Hydrolysis		Hydrolytic half-life	20 hours (t 1/2)	
dibutyltin dichloride	683-18-1	Experimental Biodegradation	28 days	CO2 evolution	6 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Experimental Biodegradation	28 days	BOD	0 %BOD/ThOD	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
4,4'-methylenediphenyl diisocyanate	101-68-8	Experimental BCF - Fish	28 days	Bioaccumulation factor	200	OECD305-Bioconcentration
dibutyltin dichloride	683-18-1	Analogous Compound BCF - Fish	56 days	Bioaccumulation factor	≤110	similar to OECD 305
dibutyltin dichloride	683-18-1	Experimental Bioconcentration		Log Kow	0.97	OECD 107 log Kow shke flsk mtd
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Experimental BCF - Fish	10 days	Bioaccumulation factor	24000	
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Experimental Bioconcentration		Log Kow	4.76	

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
4,4'-methylenediphenyl	101-68-8	Estimated Mobility in Soil	Koc	34,000 l/kg	Episuite™

diisocyanate					
TRIBUTYLTIN CHLORIDE (T; R:21-25-36/38-48/23/25)	1461-22-9	Modeled Mobility in Soil	Koc	13,500 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. Other adverse effects

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

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	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	Please refer to the other sections of the SDS for further	Please refer to the other sections of the SDS for further information.

	further information.	information.	
14.7 Transport in bulk according to Annex II of Marpol 73/78 and IBC Code	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
Carbon black	1333-86-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
4,4'-methylenediphenyl diisocyanate	101-68-8	Carc. 2	The retained CLP Regulation (EU) No 1272/2008, as amended for Great Britain, UK Mandatory Classification and Labelling list
4,4'-methylenediphenyl diisocyanate	101-68-8	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 to Annex XVII of regulation (EC) 1907/2006, as amended for GB, with regard to restrictions on the manufacture, placing on the market and use when present in certain dangerous conditions. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

Ingredient	CAS Nbr
4,4'-methylenediphenyl diisocyanate	101-68-8

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

Restriction

Authorisation status under UK REACH:

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

Ingredient	CAS Nbr
dibutyltin dichloride	683-18-1

Authorisation status: listed in the UK REACH Candidate List of Substances of Very High Concern for Authorisation

Global inventory status

Contact 3M for more information.

COMAH Regulation, SI 2015/483

Seveso hazard categories, Annex 1, Part 1
None

Seveso named dangerous substances, Annex 1, Part 2
None

Regulation (EU) No 649/2012, as amended for GB

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

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 for GB.

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.
H311	Toxic in contact with skin.
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.
H370	Causes damage to organs.

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:
GB Section 02: CLP Ingredient table information was added.
GB Section 02: Other hazards phrase information was added.
GB Section 04: First Aid - Symptoms and Effects (GB CLP) information was added.
GB Section 04: Information on toxicological effects information was added.
GB Section 12: Classification Warning information was added.
GB Section 15: Authorisation status under REACH: SVHC Authorisation ingredient information information was added.
GB Section 15: Carcinogenicity information information was added.
GB Section 15: Chemical Safety Assessment information was added.
GBSDS Section 14 Transport in bulk - Main Heading information was added.
GBSDS Section 14 UN Number information was added.
Section 1: E-mail address information was modified.
CLP: Ingredient table information was deleted.
Label: CLP Percent Unknown information was deleted.
Section 2: Other hazards phrase information was deleted.
Section 3: Composition/ Information of ingredients table information was added.
Section 3: Composition/ Information of ingredients table information was deleted.
Section 03: SCL table information was added.
Section 03: SCL table information was deleted.
Section 04: First Aid - Symptoms and Effects (CLP) information was deleted.
Section 4: First aid for eye contact information information was modified.
Section 04: Information on toxicological effects information was deleted.
Section 6: Accidental release personal information information was modified.
Section 7: Conditions safe storage information was modified.
Section 8: Occupational exposure limit table information was modified.
OEL Reg Agency Desc information was modified.
Section 08: Personal Protection - Apron Statement information was added.
Section 8: Personal Protection - Skin/body information information was deleted.
Section 8: Skin protection - protective clothing information information was deleted.
Section 9: Flammability (solid, gas) information information was deleted.
Section 09: Flammability information information was added.
Section 09: Particle shape information was added.
Section 09: Particle Size information was added.
Section 11: Acute Toxicity table information was modified.
Section 11: Carcinogenicity Table information was modified.
Section 11: Classification disclaimer information was deleted.
Section 11: GB Classification disclaimer information was added.
Section 11: GB No endocrine disruptor information available warning information was added.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: No endocrine disruptor information available warning information was deleted.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was modified.
Section 12: 12.6. Endocrine Disrupting Properties information was deleted.
Section 12: 12.6. Other adverse effects information was added.
Section 12: 12.7. Other adverse effects information was deleted.
Section 12: Classification Warning information was deleted.

Section 12: Component ecotoxicity information information was modified.
Section 12: Mobility in soil information information was modified.
Prints No Data if Adverse effects information is not present information was deleted.
Section 12: No endocrine disruptor information available warning information was added.
Section 12: No endocrine disruptor information available warning information was deleted.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 14 Marine transport in bulk according to IMO instruments – Main Heading information was deleted.
Section 14 UN Number information was deleted.
Section 15: Authorization status under REACH: SVHC Authorization ingredient information information was deleted.
Section 15: Carcinogenicity information information was deleted.
Section 15: Chemical Safety Assessment information was deleted.
Section 15: Seveso Substance Text information was deleted.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was added.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was deleted.
Section 16: Web address information was added.
Section 16: Web address information was deleted.
Section 9: Particle specific surface area information was added.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications. 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 SDSs for Great Britain are available at www.3M.com/uk
For Northern Ireland documents, please contact your 3M representative to obtain a copy.