



Safety Data Sheet

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Transportation version number:

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (1907/2006) as amended by Regulation (EU) 2020/878

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

1.1. Product identifier

3M Structural Plastic Adhesive PN 55047

Product Identification Numbers

FS-9100-4551-7 UU-0108-4375-1

7000080187 7100222832

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, 70 SIR JOHN ROGERSON'S QUAY, D02R296 DUBLIN 2
Telephone: +353 1 280 3555
E Mail: ner-productstewardship@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:

22-1786-7, 22-1762-8

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:

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

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

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

Pictograms



Contains:

4,4'-Methylenediphenyl diisocyanate, oligomers; m-Xylene-.alpha.alpha'.-diamine.

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.
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H412 Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

General:

P102 Keep out of reach of children.

Prevention:

P261A
P280K

Avoid breathing vapours.
Wear protective gloves and respiratory protection.

Response:

P304 + P340
P305 + P351 + P338

P333 + P313
P342 + P311

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If skin irritation or rash occurs: Get medical advice/attention.
If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.

Disposal:

P501

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

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.
H335 May cause respiratory irritation.

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

H412 Harmful to aquatic life with long lasting effects.

<=125 ml Precautionary statements

General:

P102 Keep out of reach of children.

Prevention:

P261A
P280K

Avoid breathing vapours.
Wear protective gloves and respiratory protection.

Response:

P304 + P340
P333 + P313
P342 + P311

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

Disposal:

P501

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

Refer to Safety Data Sheet for component % unknown values (www.3M.com/msds).

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:

Section 1: Address information was modified.
Section 1: E-mail address information was modified.
Section 2: <125ml Hazard - Cat 2 Repeated Target Organ information was modified.
Section 2: <125ml Hazard - Environmental information was added.
Section 2: <125ml Precautionary - Prevention information was modified.

Section 2: <125ml Precautionary - Response information was modified.

Label: CLP Classification information was modified.

Label: CLP Environmental Hazard Statements information was added.

Label: CLP Precautionary - Prevention information was modified.

Label: CLP Precautionary - Response information was modified.

Label: CLP Target Organ Hazard Statement information was modified.



Safety Data Sheet

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Document group: 22-1762-8 **Version number:** 9.00
Revision date: 19/12/2024 **Supersedes date:** 14/12/2021

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™ Structural Plastic Adhesive PN 55047 (Part A)

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
 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
4,4'-Methylenediphenyl diisocyanate, oligomers		500-040-3	45 - 90

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.

41% of the mixture consists of components of unknown acute oral toxicity.

Contains 41% 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]
4,4'-Methylenediphenyl diisocyanate, oligomers	(EC-No.) 500-040-3	45 - 90	Carc. 2, H351 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 STOT RE 2, H373
Castor Oil, Polymer With 1,1'-Methylenebis[4-Isocyanatobenzene]	(CAS-No.) 68424-09-9	30 - 60	Substance not classified as hazardous
Oxirane, Methyl-, Polymer With Oxirane, Ether With 1,2,3-Propanetriol (3:1), Polymer With 1,1'-Methylenebis[4-Isocyanatobenzene]	(CAS-No.) 59675-67-1	1 - 5	Substance not classified as hazardous
Carbon black	(CAS-No.) 1333-86-4 (EC-No.) 215-609-9 (REACH-No.) 01-2119384822-32	0.1 - 1	Substance with a national occupational exposure limit

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
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4,4'-Methylenediphenyl diisocyanate, oligomers	(EC-No.) 500-040-3	(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
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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 fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

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

5.3. 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

Do not use in a confined area with minimal air exchange. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Use personal protective equipment (eg. gloves, respirators...) as required.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from acids. Store away from strong bases.

7.3. 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
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

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. 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

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:	Viscous.
Colour	Black
Odor	Mild Urethane, Odourless
Odour threshold	No data available.
Melting point/freezing point	No data available.
Boiling point/boiling range	>=204.4 °C
Flammability	Not applicable.
Flammable Limits(LEL)	Not applicable.
Flammable Limits(UEL)	Not applicable.
Flash point	>=143.3 °C [Test Method: Tagliabue closed cup]
Autoignition temperature	Not applicable.
Decomposition temperature	No data available.
pH	substance/mixture is non-soluble (in water)
Kinematic Viscosity	No data available.
Water solubility	Negligible
Solubility- non-water	No data available.
Partition coefficient: n-octanol/water	No data available.
Vapour pressure	<=0 Pa [@ 20 °C]
Density	1 - 1.2 g/ml
Relative density	1 - 1.2 [Ref Std:WATER=1]
Relative Vapour Density	>=1 [Ref Std: AIR=1]
Particle Characteristics	Not applicable.

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds

No data available.

Evaporation rate

<=1 [Details: Gels with exposure to humidity.]

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

None known.

10.5 Incompatible materials

Water
Strong acids.
Strong bases.

10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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:

Prolonged or repeated exposure by inhalation may cause:

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.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

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
4,4'-Methylenediphenyl diisocyanate, oligomers	Dermal	Rabbit	LD50 > 5,000 mg/kg
4,4'-Methylenediphenyl diisocyanate, oligomers	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
4,4'-Methylenediphenyl diisocyanate, oligomers	Ingestion	Rat	LD50 31,600 mg/kg
Carbon black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon black	Ingestion	Rat	LD50 > 8,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
4,4'-Methylenediphenyl diisocyanate, oligomers	official classification	Irritant
Carbon black	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
4,4'-Methylenediphenyl diisocyanate, oligomers	official classification	Severe irritant
Carbon black	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
4,4'-Methylenediphenyl diisocyanate, oligomers	Mouse	Sensitising

Respiratory Sensitisation

Name	Species	Value
4,4'-Methylenediphenyl diisocyanate, oligomers	Human	Sensitising

Germ Cell Mutagenicity

Name	Route	Value
4,4'-Methylenediphenyl diisocyanate, oligomers	In Vitro	Some positive data exist, but the data are not sufficient for classification
Carbon black	In Vitro	Not mutagenic
Carbon black	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
4,4'-Methylenediphenyl diisocyanate, oligomers	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test result	Exposure Duration
4,4'-Methylenediphenyl diisocyanate, oligomers	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, oligomers	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
4,4'-Methylenediphenyl diisocyanate, oligomers	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
Carbon black	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure

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
4,4'-Methylenediphenyl diisocyanate, oligomers	500-040-3	Water flea	Analogous Compound	24 hours	EC50	>100 mg/l
Castor Oil, Polymer With 1,1'-Methylenebis[4-Isocyanatobenzene]	68424-09-9	N/A	Data not available or insufficient for classification	N/A	N/A	NA
Oxirane, Methyl-, Polymer With Oxirane, Ether With 1,2,3-Propanetriol (3:1), Polymer With 1,1'-Methylenebis[4-Isocyanatobenzene]	59675-67-1	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

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
4,4'-Methylenediphenyl diisocyanate, oligomers	500-040-3	Analogous Compound Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301C - MITI test (I)
4,4'-Methylenediphenyl diisocyanate, oligomers	500-040-3	Analogous Compound Hydrolysis		Hydrolytic half-life (pH 7)	<2 hours (t 1/2)	
Castor Oil, Polymer With 1,1'-Methylenebis[4-Isocyanatobenzene]	68424-09-9	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Oxirane, Methyl-, Polymer With Oxirane, Ether With 1,2,3-Propanetriol (3:1), Polymer With 1,1'-Methylenebis[4-Isocyanatobenzene]	59675-67-1	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

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
4,4'-Methylenediphenyl diisocyanate, oligomers	500-040-3	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	200	
Castor Oil, Polymer With 1,1'-Methylenebis[4-Isocyanatobenzene]	68424-09-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Oxirane, Methyl-, Polymer With Oxirane, Ether With 1,2,3-Propanetriol (3:1), Polymer With 1,1'-Methylenebis[4-Isocyanatobenzene]	59675-67-1	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

12.4. Mobility in soil

No test data available.

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.

	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>
4,4'-Methylenediphenyl diisocyanate, oligomers	500-040-3	Carc. 2	Vendor classified according to Regulation (EC) No 1272/2008
Carbon black	1333-86-4	Grp. 2B: Possible human carc.	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 Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). 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.

CLP: Ingredient table information was modified.

Label: CLP Precautionary - Prevention information was modified.

Section 3: Composition/ Information of ingredients table information was modified.

Section 8: Eye/face protection information information was modified.

Section 9: Flammability (solid, gas) information information was deleted.

Section 09: Flammability information information was added.

Section 09: Odor information was modified.

Section 09: Particle Characteristics N/A information was added.

Section 9: Vapour density value information was modified.

Section 11: Skin Sensitization Table information was modified.

Section 12: Component ecotoxicity information information was modified.

Section 12: Persistence and Degradability information information was modified.

Section 12: Biocumulative potential information information was modified.

Section 14: Marine transport in bulk according to IMO instruments – Main Heading information was modified.

Section 14: UN Number information was modified.

Section 14: Transportation classification information was deleted.

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

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Document group: 22-1786-7 **Version number:** 9.00
Revision date: 19/12/2024 **Supersedes date:** 11/07/2022

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 55047 Structural Plastic Adhesive (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

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

Skin Sensitization, Category 1 - Skin Sens. 1; H317

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**

WARNING.

Symbols

GHS07 (Exclamation mark) |

Pictograms**Ingredients:**

Ingredient	CAS Nbr	EC No.	% by Wt
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	216-032-5	1 - 5

HAZARD STATEMENTS:

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS**Prevention:**

P280E	Wear protective gloves.
-------	-------------------------

Response:

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.

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

H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

<=125 ml Precautionary statements**Prevention:**

P280E	Wear protective gloves.
-------	-------------------------

Response:

P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
-------------	--

Contains 54% of components with unknown hazards to the aquatic environment.

2.3. Other hazards

Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines.
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]
Glycerol poly(oxyethylene, oxypropylene) ether	(CAS-No.) 9082-00-2	40 - 70	Substance not classified as hazardous
Glycerol, propoxylated	(CAS-No.) 25791-96-2 (EC-No.) 500-044-5	10 - 30	Substance not classified as hazardous
1,1',1'',1'''-Ethylenedinitrilotetrapropan-2-ol	(CAS-No.) 102-60-3 (EC-No.) 203-041-4 (REACH-No.) 01-2119552434-41	10 - 30	Eye Irrit. 2, H319
m-Xylene-.alpha.alpha'.-diamine	(CAS-No.) 1477-55-0 (EC-No.) 216-032-5	1 - 5	Acute Tox. 4, H332 Acute Tox. 4, H302 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Chronic 3, H412
2,6-Di-tert-butyl-p-cresol	(CAS-No.) 128-37-0 (EC-No.) 204-881-4	< 0.5	Aquatic Chronic 1, H410,M=1 Aquatic Acute 1, H400,M=1

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

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:

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).

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

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide

Carbon dioxide.

Oxides of nitrogen.

Condition

During combustion.

During combustion.

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. 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

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

7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from oxidising agents.

7.3. 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
2,6-Di-tert-butyl-p-cresol	128-37-0	Ireland OELs	TWA(8 hours):2 mg/m ³	
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Ireland OELs	TWA(8 hours):0.1 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

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
Natural rubber.	0.5	< 1 hour
Butyl rubber.	0.5	=>8 hours

Neoprene. 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: Apron – Butyl rubber Neoprene apron.

Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic 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:	Viscous.
Colour	Colourless
Odor	Slight Ammoniacal
Odour threshold	<i>No data available.</i>
Melting point/freezing point	<i>No data available.</i>
Boiling point/boiling range	>=210 °C
Flammability	Not applicable.
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Flash point	>=143.3 °C [Test Method: Tagliabue closed cup]
Autoignition temperature	<i>Not applicable.</i>
Decomposition temperature	<i>No data available.</i>
pH	<i>substance/mixture is non-soluble (in water)</i>
Kinematic Viscosity	1,455 mm ² /sec
Water solubility	Negligible
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Vapour pressure	<i>Not applicable.</i>
Density	1 - 1.1 g/ml
Relative density	1 - 1.1 [Ref Std:WATER=1]
Relative Vapour Density	>=1 [Ref Std: AIR=1]
Particle Characteristics	<i>Not applicable.</i>

9.2. Other information

9.2.2 Other safety characteristics

EU Volatile Organic Compounds

No data available.

Evaporation rate

≤ 1 [Ref Std:WATER=1]

Percent volatile

0.49 % 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

None known.

10.5 Incompatible materials

Strong acids.

Strong oxidising agents.

10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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.

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 information:

Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines.

Toxicological Data

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Glycerol poly(oxyethylene, oxypropylene) ether	Dermal	similar compounds	LD50 > 2,000 mg/kg
Glycerol poly(oxyethylene, oxypropylene) ether	Inhalation-Dust/Mist (4 hours)	similar compounds	LC50 > 3.2 mg/l
Glycerol poly(oxyethylene, oxypropylene) ether	Ingestion	similar compounds	LD50 > 5,000 mg/kg
Glycerol, propoxylated	Dermal	Rat	LD50 > 2,000 mg/kg
Glycerol, propoxylated	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 50 mg/l
Glycerol, propoxylated	Ingestion	Rat	LD50 4,600 mg/kg
1,1',1",1""-Ethylenedinitrilotetrapropan-2-ol	Dermal	Rat	LD50 > 2,000 mg/kg
1,1',1",1""-Ethylenedinitrilotetrapropan-2-ol	Ingestion	Rat	LD50 2,890 mg/kg
m-Xylene-.alpha.alpha'-diamine	Dermal	Rabbit	LD50 > 2,000 mg/kg
m-Xylene-.alpha.alpha'-diamine	Inhalation-Dust/Mist (4 hours)	Rat	LC50 1.2 mg/l
m-Xylene-.alpha.alpha'-diamine	Ingestion	Rat	LD50 980 mg/kg
2,6-Di-tert-butyl-p-cresol	Dermal	Rat	LD50 > 2,000 mg/kg
2,6-Di-tert-butyl-p-cresol	Ingestion	Rat	LD50 > 2,930 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Glycerol poly(oxyethylene, oxypropylene) ether	similar compounds	Minimal irritation
Glycerol, propoxylated	Rabbit	No significant irritation
1,1',1",1""-Ethylenedinitrilotetrapropan-2-ol	Rabbit	No significant irritation
m-Xylene-.alpha.alpha'-diamine	Rat	Corrosive
2,6-Di-tert-butyl-p-cresol	Human and animal	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value

Glycerol poly(oxyethylene, oxypropylene) ether	similar compounds	Mild irritant
Glycerol, propoxylated	Rabbit	Mild irritant
1,1',1'',1'''-Ethylenedinitrilotetrapropan-2-ol	Rabbit	Severe irritant
m-Xylene-.alpha.alpha'.-diamine	Rabbit	Corrosive
2,6-Di-tert-butyl-p-cresol	Rabbit	Mild irritant

Skin Sensitisation

Name	Species	Value
Glycerol poly(oxyethylene, oxypropylene) ether	similar compounds	Not classified
1,1',1'',1'''-Ethylenedinitrilotetrapropan-2-ol	Guinea pig	Not classified
m-Xylene-.alpha.alpha'.-diamine	Guinea pig	Sensitising
2,6-Di-tert-butyl-p-cresol	Human	Not classified

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
Glycerol poly(oxyethylene, oxypropylene) ether	In Vitro	Not mutagenic
1,1',1'',1'''-Ethylenedinitrilotetrapropan-2-ol	In Vitro	Not mutagenic
m-Xylene-.alpha.alpha'.-diamine	In Vitro	Not mutagenic
m-Xylene-.alpha.alpha'.-diamine	In vivo	Not mutagenic
2,6-Di-tert-butyl-p-cresol	In Vitro	Not mutagenic
2,6-Di-tert-butyl-p-cresol	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
2,6-Di-tert-butyl-p-cresol	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
1,1',1'',1'''-Ethylenedinitrilotetrapropan-2-ol	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	pre mating into lactation
1,1',1'',1'''-Ethylenedinitrilotetrapropan-2-ol	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	30 days
1,1',1'',1'''-Ethylenedinitrilotetrapropan-2-ol	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	pre mating into lactation
m-Xylene-.alpha.alpha'.-diamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 450 mg/kg/day	1 generation
m-Xylene-.alpha.alpha'.-diamine	Ingestion	Not classified for male reproduction	Rat	NOAEL 450 mg/kg	1 generation
m-Xylene-.alpha.alpha'.-diamine	Ingestion	Not classified for development	Rat	NOAEL 450 mg/kg/day	1 generation
2,6-Di-tert-butyl-p-cresol	Ingestion	Not classified for female reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
2,6-Di-tert-butyl-p-cresol	Ingestion	Not classified for male reproduction	Rat	NOAEL 500 mg/kg/day	2 generation

2,6-Di-tert-butyl-p-cresol	Ingestion	Not classified for development	Rat	NOAEL 100 mg/kg/day	2 generation
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Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
1,1',1'',1'''-Ethylenedinitrilotetrapropyl-n-2-ol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Positive	
m-Xylene-.alpha.alpha'-diamine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Not available	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
1,1',1'',1'''-Ethylenedinitrilotetrapropyl-n-2-ol	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 300 mg/kg/day	30 days
1,1',1'',1'''-Ethylenedinitrilotetrapropyl-n-2-ol	Ingestion	heart skin endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system liver immune system muscles eyes kidney and/or bladder respiratory system vascular system	Not classified	Rat	NOAEL 1,000 mg/kg/day	30 days
m-Xylene-.alpha.alpha'-diamine	Ingestion	endocrine system blood bone marrow	Not classified	Rat	NOAEL 600 mg/kg/day	28 days
2,6-Di-tert-butyl-p-cresol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 250 mg/kg/day	28 days
2,6-Di-tert-butyl-p-cresol	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 500 mg/kg/day	2 generation
2,6-Di-tert-butyl-p-cresol	Ingestion	blood	Not classified	Rat	LOAEL 420 mg/kg/day	40 days
2,6-Di-tert-butyl-p-cresol	Ingestion	endocrine system	Not classified	Rat	NOAEL 25 mg/kg/day	2 generation
2,6-Di-tert-butyl-p-cresol	Ingestion	heart	Not classified	Mouse	NOAEL 3,480 mg/kg/day	10 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
Glycerol poly(oxyethylene, oxypropylene) ether	9082-00-2	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
1,1',1",1""-Ethylenedinitrilotetrapropyl-2-ol	102-60-3	Green algae	Analogous Compound	72 hours	ErC50	>100 mg/l
1,1',1",1""-Ethylenedinitrilotetrapropyl-2-ol	102-60-3	Water flea	Analogous Compound	48 hours	EC50	>500 mg/l
1,1',1",1""-Ethylenedinitrilotetrapropyl-2-ol	102-60-3	Activated sludge	Experimental	30 minutes	EC50	>1,000 mg/l
1,1',1",1""-Ethylenedinitrilotetrapropyl-2-ol	102-60-3	Fathead minnow	Experimental	96 hours	LC50	>1,000 mg/l
1,1',1",1""-Ethylenedinitrilotetrapropyl-2-ol	102-60-3	Green algae	Analogous Compound	72 hours	ErC10	16.1 mg/l
Glycerol, propoxylated	25791-96-2	Golden Orfe	Experimental	96 hours	LC50	>1,000 mg/l
Glycerol, propoxylated	25791-96-2	Green algae	Experimental	72 hours	ErC50	>100 mg/l
Glycerol, propoxylated	25791-96-2	Water flea	Experimental	48 hours	EC50	>100 mg/l
Glycerol, propoxylated	25791-96-2	Green algae	Experimental	72 hours	NOEC	>100 mg/l
m-Xylene-.alpha.alpha'-.diamine	1477-55-0	Activated sludge	Experimental	30 minutes	EC50	>1,000 mg/l
m-Xylene-.alpha.alpha'-.diamine	1477-55-0	Bacteria	Experimental	16 hours	EC10	24 mg/l
m-Xylene-.alpha.alpha'-.diamine	1477-55-0	Green algae	Experimental	72 hours	ErC50	28 mg/l
m-Xylene-.alpha.alpha'-.diamine	1477-55-0	Medaka	Experimental	96 hours	LC50	87.6 mg/l
m-Xylene-.alpha.alpha'-.diamine	1477-55-0	Water flea	Experimental	48 hours	EC50	15.2 mg/l
m-Xylene-.alpha.alpha'-.diamine	1477-55-0	Green algae	Experimental	72 hours	NOEC	9.8 mg/l
m-Xylene-.alpha.alpha'-.diamine	1477-55-0	Water flea	Experimental	21 days	NOEC	4.7 mg/l
2,6-Di-tert-butyl-p-cresol	128-37-0	Activated sludge	Experimental	3 hours	EC50	>10,000 mg/l
2,6-Di-tert-butyl-p-cresol	128-37-0	Green algae	Experimental	72 hours	EC50	>0.4 mg/l
2,6-Di-tert-butyl-p-cresol	128-37-0	Water flea	Experimental	48 hours	EC50	0.48 mg/l
2,6-Di-tert-butyl-p-cresol	128-37-0	Zebra Fish	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
2,6-Di-tert-butyl-p-cresol	128-37-0	Green algae	Experimental	72 hours	EC10	0.4 mg/l

2,6-Di-tert-butyl-p-cresol	128-37-0	Medaka	Experimental	42 days	NOEC	0.053 mg/l
2,6-Di-tert-butyl-p-cresol	128-37-0	Water flea	Experimental	21 days	NOEC	0.023 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Glycerol poly(oxyethylene, oxypropylene) ether	9082-00-2	Modeled Biodegradation	28 days	BOD	20 %BOD/ThO D	Catalogic™
1,1',1",1'''-Ethylenedinitrilotetrapropan-2-ol	102-60-3	Experimental Biodegradation	28 days	BOD	1 %BOD/ThO D	OECD 301C - MITI test (I)
Glycerol, propoxylated	25791-96-2	Experimental Biodegradation	28 days	CO2 evolution	38 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Experimental Biodegradation	28 days	CO2 evolution	49 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Experimental Aquatic Inherent Biodegrad.	28 days	BOD	22 %BOD/ThO D	OECD 302C - Modified MITI (II)
2,6-Di-tert-butyl-p-cresol	128-37-0	Data not availbl-insufficient	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Glycerol poly(oxyethylene, oxypropylene) ether	9082-00-2	Modeled Bioconcentration		Bioaccumulation factor	2	Catalogic™
Glycerol poly(oxyethylene, oxypropylene) ether	9082-00-2	Modeled Bioconcentration		Log Kow	-2.6	Episuite™
1,1',1",1'''-Ethylenedinitrilotetrapropan-2-ol	102-60-3	Experimental Bioconcentration		Log Kow	0.27	OECD 107 log Kow shke flsk mtd
Glycerol, propoxylated	25791-96-2	Experimental BCF - Fish	42 days	Bioaccumulation factor	≤7	
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Experimental BCF - Fish	42 days	Bioaccumulation factor	<2.7	OECD305-Bioconcentration
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Extrapolated Bioconcentration		Log Kow	0.18	OECD 107 log Kow shke flsk mtd
2,6-Di-tert-butyl-p-cresol	128-37-0	Experimental BCF - Fish	56 days	Bioaccumulation factor	1277	OECD305-Bioconcentration

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
Glycerol poly(oxyethylene, oxypropylene) ether	9082-00-2	Modeled Mobility in Soil	Koc	13 l/kg	Episuite™
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Modeled Mobility in Soil	Koc	<1 l/kg	ACD/Labs ChemSketch™

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. If no other disposal options are available, waste product that has been completely cured or polymerised may be placed in a landfill properly designed for industrial waste. 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

Ingredient

2,6-Di-tert-butyl-p-cresol

CAS Nbr

128-37-0

Classification

Gr. 3: Not classifiable

Regulation

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 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.

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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

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
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 2: <125ml Hazard - Environmental information was added.

Label: CLP Classification information was modified.

Label: CLP Environmental Hazard Statements information was added.

Section 3: Composition/ Information of ingredients table information was modified.

Section 8: Eye/face protection information information was modified.

Section 8: glove data value information was modified.

Section 8: Occupational exposure limit table information was modified.

Section 8: Skin protection - protective clothing information information was modified.

Section 9: Flammability (solid, gas) information information was deleted.

Section 09: Flammability information information was added.

Section 09: Particle Characteristics N/A 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 added.

Section 11: Carcinogenicity text information was deleted.

Section 11: Germ Cell Mutagenicity Table 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: Target Organs - Repeated 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: Biocumulative potential information information was modified.

Section 14: Transportation classification information was deleted.

Section 15: Carcinogenicity information information was added.

Section 15: Regulations - Inventories 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.

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