Safety Data Sheet

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

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

1.1. Product identifier
3M Scotchkote Pipe Renewal Liner 2400 Part A (Base)

Product identification numbers
GR-2001-3494-2 GR-2001-4114-5

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

Identified uses
Coating.

1.3. Details of the supplier of the substance or mixture
Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
E Mail: tox.uk@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
CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:
Acute Toxicity, Category 4 - Acute Tox. 4; H332
Skin Sensitization, Category 1 - Skin Sens. 1; H317
Specific Target Organ Toxicity-Single Exposure, Category 3 - STOT SE 3; H335

For full text of H phrases, see Section 16.

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive
Indication of danger
Harmful; Xn; R20
Irritant; Xi; R37

Sensitizing; R43

For full text of R phrases, see Section 16.

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

SIGNAL WORD
WARNING!

Symbols:
GHS07 (Exclamation mark) |

Pictograms

Ingredient	CAS Nbr	% by Wt
Hexamethylene diisocyanate, oligomers	28182-81-2	40 - 55
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane	9048-90-2	10 - 20
Hexamethylene diisocyanate	822-06-0	< 0.5

HAZARD STATEMENTS:

H332	Harmful if inhaled.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.

PRECAUTIONARY STATEMENTS

Prevention:

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280E	Wear protective gloves.

Response:

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

44% of the mixture consists of components of unknown acute inhalation toxicity.
Contains 64% of components with unknown hazards to the aquatic environment.

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

Symbol(s)

Harmful

Contains:
Hexamethylene diisocyanate, oligomers; Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane

Risk phrases

R20	Harmful by inhalation.
R37	Irritating to respiratory system.
R43	May cause sensitisation by skin contact.

Safety phrases

S23C	Do not breathe vapour or spray.
S51	Use only in well ventilated areas.
S24	Avoid contact with skin.
S37	Wear suitable gloves.

Special provisions concerning the labelling of certain substances

Contains isocyanates. See information supplied by manufacturer.

2.3. Other hazards

Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Hexamethylene diisocyanate, oligomers	28182-81-2	NLP 500-060-2	40 - 55	Xn:R20; Xi:R37; R43 (Self Classified) Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335 (Self Classified)
Non-hazardous ingredients	Mixture		25 - 35	
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane	9048-90-2		10 - 20	R43 (Vendor) Skin Sens. 1, H317 (Vendor)
Zeolites	1318-02-1	EINECS 215-283-8	1 - 10	
Dimethyl siloxane, reaction product with silica	67762-90-7		1 - 5	
Titanium dioxide	13463-67-7	EINECS 236-675-5	< 1	
Hexamethylene diisocyanate	822-06-0	EINECS 212-485-8	< 0.5	T:R23; Xi:R36-37-38; R42-43 - Nota 2 (EU) R52 (Self Classified) Acute Tox. 2, H330; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Resp. Sens. 1A, H334; Skin Sens. 1A, H317; STOT SE 3, H335 - Nota 2 (CLP)

Please see section 16 for the full text of any R phrases and H statements referred to in this section
Please refer to section 15 for the any applicable Notas that have been applied to the above components

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
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, 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
See Section 11.1 Information on toxicological effects

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

SECTION 5: Fire-fighting measures

5.1. Extinguishing media
In case of fire: Use a 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.

5.3. Advice for fire-fighters
No unusual fire or explosion hazards are anticipated.

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. Warning: A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Contain spill. Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Dispose of collected material as soon as possible.

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial or professional use only. Do not use in a confined area with minimal air exchange. Do not handle until all safety precautions have been read and understood. 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. 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 heat.

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

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Aluminum oxides	1318-02-1	Health and Safety Comm. (UK)	TWA(as inhalable dust):10 mg/m³;TWA(as respirable dust):4 mg/m³	
Titanium dioxide	13463-67-7	Health and Safety Comm. (UK)	TWA(Inhalable):10 mg/m3;TWA(respirable):4 mg/m³	

Health and Safety Comm. (UK) : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect vented goggles.

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions.

Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.
Gloves made from the following material(s) are recommended: Butyl rubber.

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

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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Thixotropic liquid.
Appearance/Odour	Slight odour; Off white colour.
Odour threshold	*No data available.*
pH	*Not applicable.*
Boiling point/boiling range	>=250 ºC
Melting point	*No data available.*
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	>=179 ºC [*Test Method:*Pensky-Martens Closed Cup]
Autoignition temperature	415 ºC
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	<=2,133.2 Pa [@ 20 ºC]
Relative density	1.4 [*Ref Std:*WATER=1]
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*Not applicable.*
Vapour density	*Not applicable.*
Decomposition temperature	*No data available.*
Viscosity	*No data available.*
Density	1.4 g/ml

9.2. Other information

Volatile organic compounds (VOC)	0 g/l [*Test Method:*Estimated]
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
Alcohols.
Amines.

10.6 Hazardous decomposition products

Substance	Condition
Carbon monoxide.	Not specified.
Carbon dioxide.	Not specified.
Hydrogen cyanide.	Not specified.
Oxides of nitrogen.	Not specified.

SECTION 11: Toxicological information

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

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation
Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Allergic respiratory reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

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

Eye contact
Moderate eye irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.

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	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Hexamethylene diisocyanate, oligomers	Dermal	Rabbit	LD50 > 5,000 mg/kg
Hexamethylene diisocyanate, oligomers	Ingestion	Rat	LD50 > 5,000 mg/kg
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane	Dermal	Rat	LD50 > 2,000 mg/kg
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane	Ingestion	Rat	LD50 > 5,000 mg/kg
Zeolites	Dermal	Rabbit	LD50 > 2,000 mg/kg
Zeolites	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4.57 mg/l
Zeolites	Ingestion	Rat	LD50 > 5,000 mg/kg
Dimethyl siloxane, reaction product with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Dimethyl siloxane, reaction product with silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Dimethyl siloxane, reaction product with silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Hexamethylene diisocyanate	Dermal	Rabbit	LD50 570 mg/kg
Hexamethylene diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.12 mg/l
Hexamethylene diisocyanate	Ingestion	Rat	LD50 710 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Hexamethylene diisocyanate, oligomers	Rabbit	Mild irritant
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane		Data not available or insufficient for classification
Zeolites		Data not available or insufficient for classification
Dimethyl siloxane, reaction product with silica	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
Hexamethylene diisocyanate	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Hexamethylene diisocyanate, oligomers	Rabbit	Moderate irritant
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane		Data not available or insufficient for classification
Zeolites		Data not available or insufficient for classification
Dimethyl siloxane, reaction product with silica	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
Hexamethylene diisocyanate	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
Hexamethylene diisocyanate, oligomers	Guinea pig	Sensitising
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane		Data not available or insufficient for classification
Zeolites		Data not available or insufficient for classification
Dimethyl siloxane, reaction product with silica	Human and	Not sensitizing

	animal	
Titanium dioxide	Human and animal	Not sensitizing
Hexamethylene diisocyanate	Multiple animal species	Sensitising

Respiratory Sensitisation

Name	Species	Value
Hexamethylene diisocyanate, oligomers	similar compounds	Some positive data exist, but the data are not sufficient for classification
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane		Data not available or insufficient for classification
Zeolites		Data not available or insufficient for classification
Dimethyl siloxane, reaction product with silica		Data not available or insufficient for classification
Titanium dioxide		Data not available or insufficient for classification
Hexamethylene diisocyanate	Human and animal	Sensitising

Germ Cell Mutagenicity

Name	Route	Value
Hexamethylene diisocyanate, oligomers	In Vitro	Not mutagenic
Hexamethylene diisocyanate, oligomers	In vivo	Not mutagenic
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane		Data not available or insufficient for classification
Zeolites		Data not available or insufficient for classification
Dimethyl siloxane, reaction product with silica	In Vitro	Not mutagenic
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
Hexamethylene diisocyanate	In Vitro	Not mutagenic
Hexamethylene diisocyanate	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Hexamethylene diisocyanate, oligomers			Data not available or insufficient for classification
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane			Data not available or insufficient for classification
Zeolites			Data not available or insufficient for classification
Dimethyl siloxane, reaction product with silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.
Hexamethylene diisocyanate	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Hexamethylene diisocyanate, oligomers		Data not available or insufficient for classification			
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane		Data not available or insufficient for classification			
Zeolites		Data not available or insufficient for classification			
Dimethyl siloxane, reaction product with silica	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Dimethyl siloxane, reaction product with silica	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation

Dimethyl siloxane, reaction product with silica	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Titanium dioxide		Data not available or insufficient for classification			
Hexamethylene diisocyanate	Inhalation	Not toxic to female reproduction	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene diisocyanate	Inhalation	Not toxic to development	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene diisocyanate	Inhalation	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.014 mg/l	4 weeks

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Hexamethylene diisocyanate, oligomers	Inhalation	respiratory irritation	May cause respiratory irritation		NOAEL Not available	
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane			Data not available or insufficient for classification			
Zeolites			Data not available or insufficient for classification			
Dimethyl siloxane, reaction product with silica			Data not available or insufficient for classification			
Hexamethylene diisocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	Human and animal	NOAEL Not available	
Hexamethylene diisocyanate	Inhalation	blood	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Hexamethylene diisocyanate, oligomers	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL .084 mg/l	2 weeks
Hexamethylene diisocyanate, oligomers	Inhalation	blood	All data are negative	Rat	NOAEL .084 mg/l	2 weeks
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane			Data not available or insufficient for classification			
Zeolites			Data not available or insufficient for classification			
Dimethyl siloxane, reaction product with silica	Inhalation	respiratory system | silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.010 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	All data are negative	Human	NOAEL Not available	occupational exposure
Hexamethylene diisocyanate	Inhalation	liver | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.002 mg/l	3 weeks
Hexamethylene diisocyanate	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.0014 mg/l	4 weeks
Hexamethylene diisocyanate	Inhalation	blood	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.0012 mg/l	2 years

Hexamethylene diisocyanate	Inhalation	nervous system	All data are negative	Rat	NOAEL 0.002 mg/l	7 weeks
Hexamethylene diisocyanate	Inhalation	heart	All data are negative	Rat	NOAEL 0.001 mg/l	90 days

Aspiration Hazard

Name	Value
Hexamethylene diisocyanate, oligomers	Not an aspiration hazard
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane	Not an aspiration hazard
Zeolites	Not an aspiration hazard
Dimethyl siloxane, reaction product with silica	Not an aspiration hazard
Titanium dioxide	Not an aspiration hazard
Hexamethylene diisocyanate	Not an 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.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Hexamethylene diisocyanate	822-06-0	Green algae	Experimental	72 hours	EC50	15 mg/l
Hexamethylene diisocyanate	822-06-0	Ricefish	Experimental	96 hours	LC50	71 mg/l
Hexamethylene diisocyanate	822-06-0	Water flea	Experimental	48 hours	EC50	27 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Sheepshead Minnow	Experimental	96 hours	LC50	>240 mg/l
Titanium dioxide	13463-67-7	Crustacea other	Experimental	96 hours	EC50	>300 mg/l
Hexamethylene diisocyanate	822-06-0	Green Algae	Experimental	72 hours	NOEC	10 mg/l
Hexamethylene diisocyanate	822-06-0	Water flea	Experimental	21 days	NOEC	4.2 mg/l
Titanium dioxide	13463-67-7	Fish	Experimental	30 days	NOEC	>=1,000 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	30 days	NOEC	3 mg/l
Dimethyl siloxane, reaction product with silica	67762-90-7		Data not available or insufficient for classification			

Hexamethylene diisocyanate, oligomers	28182-81-2		Insufficient to classify			
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane	9048-90-2		Data not available or insufficient for classification			
Zeolites	1318-02-1		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane	9048-90-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hexamethylene diisocyanate	822-06-0	Experimental Hydrolysis		Hydrolytic half-life	5 minutes (t 1/2)	Other methods
Zeolites	1318-02-1	Experimental Hydrolysis		Hydrolytic half-life	2 months (t 1/2)	Other methods
Dimethyl siloxane, reaction product with silica	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hexamethylene diisocyanate	822-06-0	Experimental Biodegradation	14 days	BOD	55.5 % weight	OECD 301C - MITI test (I)
Hexamethylene diisocyanate, oligomers	28182-81-2	Modeled Biodegradation	28 days	BOD	28 % weight	OECD 301C - MITI test (I)
Titanium dioxide	13463-67-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Poly[oxy(methyl-1,2-	9048-90-2	Data not available or	N/A	N/A	N/A	N/A

ethanediyl)], .alpha.-hydro-.omega.-hydroxy-, polymer with 1,6-diisocyanatohexane		insufficient for classification				
Zeolites	1318-02-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Dimethyl siloxane, reaction product with silica	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hexamethylene diisocyanate	822-06-0	Estimated Bioconcentration		Bioaccumulation factor	158	Estimated: Bioconcentration factor
Hexamethylene diisocyanate, oligomers	28182-81-2	Modeled Bioconcentration		Bioaccumulation factor	5	Other methods
Titanium dioxide	13463-67-7	Experimental BCF - Other	42 days	Bioaccumulation factor	9.6	Other methods

12.4. Mobility in soil
Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

No information available at this time, contact manufacturer for more details

12.6. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
See Section 11.1 Information on toxicological effects

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

080501* Waste isocyanates

SECTION 14: Transportation information

GR-2001-3494-2, GR-2001-4114-5

Not hazardous for transportation

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
Titanium dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Zeolites	1318-02-1	Gr. 3: Not classifiable	International Agency for Research on Cancer

Global inventory status
Contact 3M for more information. The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of 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 chemical notification requirements of TSCA.

15.2. Chemical Safety Assessment
Not applicable

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.
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.

List of relevant R-phrases

R20	Harmful by inhalation.
R23	Toxic by inhalation.
R36	Irritating to eyes.
R37	Irritating to respiratory system.
R38	Irritating to skin.
R42	May cause sensitisation by inhalation.
R43	May cause sensitisation by skin contact.

R52 Harmful to aquatic organisms.

Revision information:
Revision Changes:
Section 8: Skin protection - recommended gloves information information was modified.
Section 16: List of relevant R phrase information information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 2: Indication of danger information information was modified.
Section 9: Flammability (solid, gas) information information was modified.
Section 16: Regulations - Inventories - EU ONLY information was modified.
Copyright information was modified.
Section 9: Flash point information information was modified.
Section 8: Occupational exposure limit table information was modified.
Aspiration Hazard Table information was modified.
Section 11: Acute Toxicity table information was modified.
Carcinogenicity Table information was modified.
Serious Eye Damage/Irritation Table information was modified.
Germ Cell Mutagenicity Table information was modified.
Skin Sensitisation Table information was modified.
Respiratory Sensitisation Table information was modified.
Reproductive Toxicity Table information was modified.
Skin Corrosion/Irritation Table information was modified.
Target Organs - Repeated Table information was modified.
Target Organs - Single Table information was modified.
Section 11: Health Effects - Skin information information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 5: Fire - Extinguishing media information information was modified.
Section 6: Accidental release personal information information was modified.
Section 6: Accidental release environmental information information was modified.
Section 6: Accidental release clean-up information information was modified.
Section 7: Precautions safe handling information information was modified.
Section 7: Conditions safe storage information was modified.
Section 8: Personal Protection - Eye information information was modified.
Section 8: Personal Protection - Skin/hand information information was modified.
Section 8: Personal Protection - Respiratory Information information was modified.
Section 10: Hazardous decomposition or by-products table information was modified.
Section 13: 13.1. Waste disposal note information was modified.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 8: Personal Protection - Skin/body information information was added.
Section 8: Skin protection - protective clothing information information was added.
Section 8: Respiratory protection - recommended respirators guide information was added.
Section 12: Component ecotoxicity information information was added.
Section 12: Persistence and Degradability information information was added.
Section 12:Bioccumulative potential information information was added.
Section 12: Component Ecotoxicity table Material column header information was added.
Section 12: Component Ecotoxicity table CAS No column header information was added.
Section 12: Component Ecotoxicity table Organism column header information was added.
Section 12: Component Ecotoxicity table Type column header information was added.
Section 12: Component Ecotoxicity table Exposure column header information was added.
Section 12: Component Ecotoxicity table End point column header information was added.
Section 12: Component Ecotoxicity table Result column header information was added.
Section 12: Persistence and degradability table Material column header information was added.
Section 12: Persistence and degradability table CAS No column header information was added.
Section 12: Persistence and degradability table Test Type column header information was added.
Section 12: Persistence and degradability table Duration column header information was added.
Section 12: Persistence and degradability table Test Result column header information was added.

Section 12: Persistence and degradability table Protocol column header information was added.
Section 12:Bioccumulative potential table Material column header information was added.
Section 12:Bioccumulative potential table CAS No column header information was added.
Section 12:Bioccumulative potential table CAS No column header information was added.
Section 12:Bioccumulative potential table Test Result column header information was added.
Section 12:Bioccumulative potential table Protocol column header information was added.
Section 12:Bioccumulative potential table Test Type column header information was added.
Label: Signal Word - Header information was added.
Label: Signal Word information was added.
Label: CLP Classification - Header information was added.
Label: CLP Classification information was added.
Label: CLP Classification information was added.
Label: CLP Classification - Header information was added.
Label: CLP Percent Unknown information was added.
Label: CLP Percent Unknown information was added.
Label: Graphic information was added.
Label: Graphic information was added.
Label: Symbol information was added.
Label: Symbol information was added.
Label: CLP Precautionary - Prevention information was added.
Label: CLP Precautionary - Prevention - Header information was added.
Label: CLP Precautionary - Response information was added.
Label: CLP Precautionary - Response - Header information was added.
Label: Precautionary Statement - Header information was added.
CLP: Ingredient table information was added.
Section 11: Carcinogenicity heading information was added.
Section 11: Cancer Hazards information information was added.
Section 2: 2.2 & 2.3. CLP REGULATION heading information was added.
Label: CLP Ingredients table Ingredient heading information was added.
Label: CLP Ingredients table CAS No heading information was added.
Label: CLP Ingredients table Percent by Wt heading information was added.
Section 12: Persistence and degradability table Study Type column header information was added.
Section 12:Bioccumulative potential table Test Type column header information was added.
Section 9: Odour Threshold information was added.
Section 9: Solubility (non-water) information was added.
Section 09: Decomposition Temperature information was added.
Section 2: H phrase reference information was added.
Section 11: Disclosed components not in tables text information was added.
Section 2: R phrase reference information was added.
Label: Graphic information was added.
Label: Graphic information was added.
Label: Graphic Text information was added.
Section 9: Flammability (solid, gas) information information was added.
Section 8: Eye/face protection text information was deleted.
Section 8: Respiratory protection - recommended respirators information was deleted.
Section 2: Symbol information was deleted.
Section 2: Symbols heading information was deleted.
Section 12: Acute aquatic hazard information information was deleted.
Section 12: Chronic aquatic hazard heading information was deleted.
Section 12: Acute aquatic hazard heading information was deleted.
Section 12: Chronic aquatic hazard information information was deleted.
Prints No Data if Component ecotoxicity information is not present information was deleted.
Prints No Data if Persistence and Degradability information is not present information was deleted.
Prints No Data if Bioccumulative potential information is not present information was deleted.
Label: CLP Supplemental Hazard Statements information was deleted.
Label: CLP Supplemental Hazard Statements - Header information was deleted.

Label: CLP Supplemental Information - Header information was deleted.
Section 8: mg/m³ key information was deleted.
Section 8: ppm key information was deleted.

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