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 Poly-Tech UV 662, Dark Grey

Product Identification Numbers
GR-2001-0526-4 GR-2001-3900-8

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 safety data sheet
Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
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:
Flammable Liquid, Category 3 - Flam. Liq. 3; H226
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Respiratory Sensitization, Category 1 - Resp. Sens. 1; H334
Skin Sensitization, Category 1B - Skin Sens. 1B; H317
Reproductive Toxicity, Category 2 - Repr. 2; H361
Hazardous to the Aquatic Environment (Chronic), Category 2 - Aquatic Chronic 2; H411

For full text of H phrases, see Section 16.

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive
Indication of danger
Flammable; R10
Toxic for reproduction; Repr. Cat. 3 R62-63
Harmful; Xn; R20
Sensitizing; R42/43
Dangerous for the environment; N; R51/53

For full text of R phrases, see Section 16.

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

SIGNAL WORD
DANGER.

Symbols:
GHS02 (Flame) |GHS08 (Health Hazard) |GHS09 (Environment) |

Pictograms

Ingredient	CAS Nbr	% by Wt
Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 2-oxepanone	426822-87-9	20 - 30
2-ethylhexyl (6-isocyanatohexyl)-carbamate	26488-60-8	1 - 10
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	53880-05-0	1 - 10
Phenol, isopropylated, phosphate (3:1)	68937-41-7	1 - 10
1,6-Hexanediyl-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl)carbamate	140921-24-0	1 - 10
p-toluenesulphonyl isocyanate	4083-64-1	< 1
bis(2-ethylhexyl) 1,6-hexan-1,6-diylbiscarbamate	76977-79-2	< 1
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	< 1
Hexamethylene diisocyanate	822-06-0	< 0.1
2-octyl-2H-isothiazol-3-one	26530-20-1	< 0.05

HAZARD STATEMENTS:

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P210A	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261A	Avoid breathing vapours.
P284A	In case of inadequate ventilation wear respiratory protection.
P280E	Wear protective gloves.
P273	Avoid release to the environment.

Response:

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P370 + P378G	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

7% of the mixture consists of components of unknown acute oral toxicity.
69% of the mixture consists of components of unknown acute dermal toxicity.
47% of the mixture consists of components of unknown acute inhalation toxicity.
Contains 40% of components with unknown hazards to the aquatic environment.

Notes on labelling

Nota N applied to CAS # 64742-46-7.

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

Symbol(s)


Harmful


Dangerous for the environment

Contains:
2-ethylhexyl (6-isocyanatohexyl)-carbamate; 1,6-Hexanediyl-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl)carbamate; Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 2-oxepanone; Phenol, isopropylated, phosphate (3:1); 3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers

Risk phrases

R10	Flammable.
R20	Harmful by inhalation.
R42/43	May cause sensitisation by inhalation and skin contact.
R62	Possible risk of impaired fertility.
R63	Possible risk of harm to the unborn child.
R51/53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Safety phrases

S23A	Do not breathe vapour.
S36/37	Wear suitable protective clothing and gloves.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.

Special provisions concerning the labelling of certain substances

Contains isocyanates. See information supplied by manufacturer.

Notes on labelling

Nota N applied to CAS 64742-46-7.

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
Barium Sulfate	7727-43-7	EINECS 231-784-4	20 - 30	
Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 2-oxepanone	426822-87-9		20 - 30	R43 (Self Classified) Skin Sens. 1, H317 (Self Classified)
Xylene	1330-20-7	EINECS 215-535-7	5 - 15	Xn:R20-21; Xi:R38; R10 - Nota C (EU) Flam. Liq. 3, H226; Acute Tox. 4, H332; Acute Tox. 4, H312; Skin Irrit. 2, H315 - Nota C (CLP)
Phenol, isopropylated, phosphate (3:1)	68937-41-7	EINECS 273-066-3	1 - 10	Repr.Cat.3:R62; Repr.Cat.3:R63 (Vendor) R52 (Self Classified) Repr. 2, H361df (Vendor)
1,6-Hexanediyl-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl)carbamate	140921-24-0	EINECS 411-700-4	1 - 10	R43 (EU) Skin Sens. 1, H317 (CLP)
2-Methoxy-1-methylethyl acetate	108-65-6	EINECS 203-603-9	1 - 10	R10 (EU) Flam. Liq. 3, H226 (CLP)
2-ethylhexyl (6-isocyanatohexyl)-carbamate	26488-60-8	EINECS 247-735-5	1 - 10	T:R23; Xi:R37-38; R42-43 (Self Classified) Acute Tox. 3, H331; Resp. Sens. 1, H334; Skin Sens. 1B, H317; STOT SE 3, H335 (Self Classified)
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	53880-05-0	NLP 500-125-5	1 - 10	Xi:R37; R43 (Self Classified) Skin Sens. 1, H317; STOT SE 3, H335 (Self Classified)
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	EINECS 273-219-4	1 - 5	
Triphenyl Phosphate	115-86-6	EINECS 204-112-2	1 - 5	N:R50/53 (Self Classified) Aquatic Acute 1, H400,M=1; Aquatic Chronic 2, H411 (Self

				Classified)
Ethylbenzene	100-41-4	EINECS 202-849-4	1 - 5	F:R11; Xn:R20-48/20; Xn:R65 (EU) R52 (Self Classified) Flam. Liq. 2, H225; Acute Tox. 4, H332; Asp. Tox. 1, H304; STOT RE 2, H373 (CLP)
Titanium dioxide	13463-67-7	EINECS 236-675-5	1 - 5	
p-toluenesulphonyl isocyanate	4083-64-1	EINECS 223-810-8	< 1	Xi:R36-37-38; R42; R14 (EU) R52/53 (Self Classified) EUH014; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Resp. Sens. 1, H334; STOT SE 3, H335 (CLP) Aquatic Chronic 3, H412 (Self Classified)
bis(2-ethylhexyl) 1,6-hexan-1,6-diylbiscarbamate	76977-79-2	EINECS 278-583-8	< 1	Xi:R38; R43 (Vendor) Skin Sens. 1, H317 (Vendor)
Distillates (petroleum), hydrotreated middle	64742-46-7	EINECS 265-148-2	< 1	Nota N (EU) Xn:R20-65; R66 (Self Classified) Nota N (CLP) Acute Tox. 4, H332; Asp. Tox. 1, H304; STOT SE 3, H336; EUH066 (Self Classified)
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	EINECS 223-861-6	< 1	T:R23; Xi:R36-37-38; N:R51/53; R42-43 - Nota 2 (EU) Acute Tox. 1, H330; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Resp. Sens. 1, H334; Skin Sens. 1, H317; STOT SE 3, H335; Aquatic Chronic 2, H411 - Nota 2 (CLP)
Carbon black	1333-86-4	EINECS 215-609-9	< 1	
terbutryn	886-50-0	EINECS 212-950-5	< 0.1	N:R50/53 (Self Classified) Aquatic Acute 1, H400,M=100; Aquatic Chronic 1, H410,M=100 (Self Classified)
Hexamethylene diisocyanate	822-06-0	EINECS 212-485-8	< 0.1	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)
2-octyl-2H-isothiazol-3-one	26530-20-1	EINECS 247-761-7	< 0.05	T:R23-24; C:R34; Xn:R22; N:R50/53; R43 (EU)

				Acute Tox. 3, H331; Acute Tox. 3, H311; Acute Tox. 4, H302; Skin Corr. 1B, H314; Skin Sens. 1, H317; Aquatic Acute 1, H400,M=10; Aquatic Chronic 1, H410,M=10 (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
Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately 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 flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Hydrogen cyanide.	During combustion.
Oxides of nitrogen.	During combustion.

5.3. Advice for fire-fighters
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. 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. Cover spill area with a fire-extinguishing foam designed for use on solvents, such as alcohols and acetone, that can dissolve in water. An AR-AFFF type foam is recommended. 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 using non-sparking tools. 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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (eg. gloves, respirators…) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep cool. 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 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

Ethylbenzene	100-41-4	UK HSC	TWA:441 mg/m3(100 ppm);STEL:552 mg/m3(125 ppm)	Skin Notation
2-Methoxy-1-methylethyl acetate	108-65-6	UK HSC	TWA:274 mg/m3(50 ppm);STEL:548 mg/m3(100 ppm)	Skin Notation
Triphenyl Phosphate	115-86-6	UK HSC	TWA:3 mg/m3;STEL:6 mg/m3	
Xylene	1330-20-7	UK HSC	TWA:220 mg/m3(50 ppm);STEL:441 mg/m3(100 ppm)	Skin Notation
Carbon black	1333-86-4	UK HSC	TWA: 3.5 mg/m³; STEL: 7 mg/m³	
Titanium dioxide	13463-67-7	UK HSC	TWA(Inhalable):10 mg/m3;TWA(respirable):4 mg/m³	
Free isocyanates	4098-71-9	Manufacturer determined	TWA:0.005 ppm;STEL:0.02 ppm	
Free isocyanates	4098-71-9	UK HSC	TWA(as NCO):0.02 mg/m3;STEL(as NCO):0.07 mg/m3	Respiratory Sensitizer
Barium Sulfate	7727-43-7	UK HSC	TWA(as inhalable dust):10 mg/m³;TWA(as respirable dust):4 mg/m³	
Free isocyanates	822-06-0	Manufacturer determined	TWA:0.005 ppm;STEL:0.02 ppm	
Free isocyanates	822-06-0	UK HSC	TWA(as NCO):0.02 mg/m3;STEL(as NCO):0.07 mg/m3	Respiratory Sensitizer

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

Biological limit values

Ingredient	CAS Nbr	Agency	Determinant	Biological Specimen	Sampling Time	Value	Additional comments
Xylene	1330-20-7	UK EH40 BMGVs	Methyl hippuric acid	Creatinine in urine	EOS	650 mmol/mol	

UK EH40 BMGVs : UK. EH40 Biological Monitoring Guidance Values (BMGVs)
EOS: End of shift.

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. Use explosion-proof ventilation 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. 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	>0.30	> 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.

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.

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	Aromatic odour; Dark grey colour
Odour threshold	*No data available.*
pH	*No data available.*
Boiling point/boiling range	>= 140 ºC
Melting point	*Not applicable.*
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	>= 30 ºC [*Test Method:*Closed Cup]
Autoignition temperature	>= 315 ºC
Flammable Limits(LEL)	1 %
Flammable Limits(UEL)	7 %
Vapour pressure	557.3 Pa [@ 25 ºC]
Relative density	1.38 [*Ref Std:*WATER=1]
Water solubility	*No data available.*
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*No data available.*
Vapour density	*No data available.*
Decomposition temperature	*No data available.*
Viscosity	*No data available.*
Density	1.38 g/ml

9.2. Other information

Volatile organic compounds (VOC)	251 g/l [*Test Method:*Estimated] [*Details:*EU Definition]
Percent volatile	18 % 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
Temperatures above the boiling point.
Sparks and/or flames.
Heat.

10.5 Incompatible materials
Alcohols.
Strong oxidising agents.
Strong acids.
Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.
Combustibles.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

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. May cause additional health effects (see below).

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

Ingestion
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Auditory effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Prolonged or repeated exposure may cause target organ effects:
Auditory effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.
Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and changes in blood pressure and heart rate.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

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	Inhalation-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Barium Sulfate	Ingestion	Rat	LD50 > 15,000 mg/kg
Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 2-oxepanone	Ingestion	Rat	LD50 > 5,000 mg/kg
Xylene	Dermal	Rabbit	LD50 > 4,200 mg/kg
Xylene	Inhalation-Vapor (4 hours)	Rat	LC50 29 mg/l
Xylene	Ingestion	Rat	LD50 3,523 mg/kg
2-Methoxy-1-methylethyl acetate	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-Methoxy-1-methylethyl acetate	Inhalation-Vapor (4 hours)	Rat	LC50 > 28.8 mg/l
2-Methoxy-1-methylethyl acetate	Ingestion	Rat	LD50 8,532 mg/kg
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.01 mg/l
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	Ingestion	Rat	LD50 > 5,000 mg/kg
2-ethylhexyl (6-isocyanatohexyl)-carbamate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.521 mg/l
2-ethylhexyl (6-isocyanatohexyl)-carbamate	Ingestion	Rat	LD50 > 2,500 mg/kg

1,6-Hexanediyl-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl)carbamate	Dermal		estimated to be > 5,000 mg/kg
1,6-Hexanediyl-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl)carbamate	Inhalation-Dust/Mist		estimated to be > 12.5 mg/l
1,6-Hexanediyl-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl)carbamate	Inhalation-Vapor		estimated to be > 50 mg/l
1,6-Hexanediyl-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl)carbamate	Ingestion		estimated to be > 5,000 mg/kg
Triphenyl Phosphate	Dermal	Rabbit	LD50 > 7,900 mg/kg
Triphenyl Phosphate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 50 mg/l
Triphenyl Phosphate	Ingestion	Rat	LD50 > 3,000 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
Ethylbenzene	Dermal	Rabbit	LD50 15,433 mg/kg
Ethylbenzene	Inhalation-Vapor (4 hours)	Rat	LC50 17.4 mg/l
Ethylbenzene	Ingestion	Rat	LD50 4,769 mg/kg
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	Dermal		LD50 estimated to be > 5,000 mg/kg
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 12.6 mg/l
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	Ingestion	Rat	LD50 > 5,000 mg/kg
Carbon black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon black	Ingestion	Rat	LD50 > 8,000 mg/kg
Distillates (petroleum), hydrotreated middle	Dermal	Rabbit	LD50 > 2,000 mg/kg
Distillates (petroleum), hydrotreated middle	Inhalation-Dust/Mist (4 hours)	Rat	LC50 4.6 mg/l
Distillates (petroleum), hydrotreated middle	Ingestion	Rat	LD50 > 5,000 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
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Dermal	Rat	LD50 > 7,000 mg/kg
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.03 mg/l
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Ingestion	Rat	LD50 4,815 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 2-oxepanone	Rabbit	Minimal irritation
Xylene	Rabbit	Mild irritant
2-Methoxy-1-methylethyl acetate	Rabbit	No significant irritation
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	Rabbit	No significant irritation
2-ethylhexyl (6-isocyanatohexyl)-carbamate	Rabbit	Mild irritant
Titanium dioxide	Rabbit	No significant irritation
Ethylbenzene	Rabbit	Mild irritant
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	Rat	No significant irritation
Carbon black	Rabbit	No significant irritation
bis(2-ethylhexyl) 1,6-hexan-1,6-diylbiscarbamate	Professional judgement	Mild irritant

Distillates (petroleum), hydrotreated middle	Rabbit	Minimal irritation
Hexamethylene diisocyanate	Rabbit	Corrosive
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Barium Sulfate	Rabbit	No significant irritation
Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 2-oxepanone	Rabbit	No significant irritation
Xylene	Rabbit	Mild irritant
2-Methoxy-1-methylethyl acetate	Rabbit	Mild irritant
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	Rabbit	Mild irritant
2-ethylhexyl (6-isocyanatohexyl)-carbamate	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
Ethylbenzene	Rabbit	Moderate irritant
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	Rabbit	No significant irritation
Carbon black	Rabbit	No significant irritation
Distillates (petroleum), hydrotreated middle	Not available	Mild irritant
Hexamethylene diisocyanate	Rabbit	Corrosive
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Rabbit	Corrosive

Skin Sensitisation

Name	Species	Value
Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 2-oxepanone	Mouse	Sensitising
2-Methoxy-1-methylethyl acetate	Guinea pig	Not sensitizing
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	Guinea pig	Sensitising
2-ethylhexyl (6-isocyanatohexyl)-carbamate	Mouse	Sensitising
Titanium dioxide	Human and animal	Not sensitizing
Ethylbenzene	Human	Not sensitizing
bis(2-ethylhexyl) 1,6-hexan-1,6-diylbiscarbamate		Sensitising
Hexamethylene diisocyanate	Multiple animal species	Sensitising
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Guinea pig	Sensitising

Respiratory Sensitisation

Name	Species	Value
2-ethylhexyl (6-isocyanatohexyl)-carbamate		Sensitising
Hexamethylene diisocyanate	Human and animal	Sensitising
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Human	Sensitising

Germ Cell Mutagenicity

Name	Route	Value
Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 2-oxepanone	In Vitro	Not mutagenic
Xylene	In Vitro	Not mutagenic
Xylene	In vivo	Not mutagenic
2-Methoxy-1-methylethyl acetate	In Vitro	Not mutagenic
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	In Vitro	Not mutagenic
2-ethylhexyl (6-isocyanatohexyl)-carbamate	In Vitro	Not mutagenic
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic

Ethylbenzene	In vivo	Not mutagenic
Ethylbenzene	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
Distillates (petroleum), hydrotreated middle	In Vitro	Some positive data exist, but the data are not sufficient for classification
Hexamethylene diisocyanate	In Vitro	Not mutagenic
Hexamethylene diisocyanate	In vivo	Not mutagenic
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	In vivo	Not mutagenic
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Xylene	Dermal	Rat	Not carcinogenic
Xylene	Ingestion	Multiple animal species	Not carcinogenic
Xylene	Inhalation	Human	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.
Ethylbenzene	Inhalation	Multiple animal species	Carcinogenic.
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.
Distillates (petroleum), hydrotreated middle	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Hexamethylene diisocyanate	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Xylene	Ingestion	Not toxic to female reproduction	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Ingestion	Not toxic to male reproduction	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Xylene	Inhalation	Some positive female reproductive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Xylene	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	during organogenesis
Xylene	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	during gestation
2-Methoxy-1-methylethyl acetate	Ingestion	Not toxic to female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
2-Methoxy-1-methylethyl acetate	Ingestion	Not toxic to male reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
2-Methoxy-1-methylethyl acetate	Ingestion	Not toxic to development	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
2-Methoxy-1-methylethyl acetate	Inhalation	Not toxic to development	Rat	NOAEL 21.6 mg/l	during organogenesis

Ethylbenzene	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 4.3 mg/l	premating & during gestation
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
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Inhalation	Not toxic to female reproduction	Rat	NOAEL 0.004 mg/l	during gestation
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Inhalation	Not toxic to male reproduction	Rat	NOAEL 0.004 mg/l	4 weeks
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.001 mg/l	during gestation

Lactation

Name	Route	Species	Value
Xylene	Ingestion	Mouse	Does not cause effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Xylene	Inhalation	auditory system	Causes damage to organs	Rat	LOAEL 6.3 mg/l	8 hours
Xylene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Xylene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Xylene	Inhalation	eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 3.5 mg/l	not available
Xylene	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
Xylene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Multiple animal species	NOAEL Not available	
Xylene	Ingestion	eyes	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 250 mg/kg	not applicable
2-Methoxy-1-methylethyl acetate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	Inhalation	respiratory irritation	May cause respiratory irritation		NOAEL Not available	
2-ethylhexyl (6-isocyanatohexyl)-carbamate	Inhalation	respiratory irritation	May cause respiratory irritation	Professional judgement	NOAEL Not available	
Ethylbenzene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Ethylbenzene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Distillates (petroleum), hydrotreated middle	Inhalation	central nervous system depression | respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Not available	NOAEL NA	
Distillates (petroleum), hydrotreated middle	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Not available	NOAEL NA	

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
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Dermal	central nervous system depression	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 7,000 mg/kg	24 hours
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	Rat	NOAEL 0.00025 mg/l	4 weeks
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL Not available	not applicable

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Barium Sulfate	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Xylene	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.4 mg/l	4 weeks
Xylene	Inhalation	auditory system	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 7.8 mg/l	5 days
Xylene	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
Xylene	Inhalation	heart | endocrine system | hematopoietic system | muscles | kidney and/or bladder | respiratory system	All data are negative	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Ingestion	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 900 mg/kg/day	2 weeks
Xylene	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,500 mg/kg/day	90 days
Xylene	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	
Xylene	Ingestion	heart | skin | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | immune system | nervous system | respiratory system	All data are negative	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
2-Methoxy-1-methylethyl acetate	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 16.2 mg/l	9 days
2-Methoxy-1-methylethyl acetate	Inhalation	olfactory system	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 1.62 mg/l	9 days
2-Methoxy-1-methylethyl acetate	Inhalation	blood	All data are negative	Multiple animal species	NOAEL 16.2 mg/l	9 days
2-Methoxy-1-methylethyl acetate	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	44 days
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the	Rat	LOAEL	2 years

			data are not sufficient for classification		0.010 mg/l	
Titanium dioxide	Inhalation	pulmonary fibrosis	All data are negative	Human	NOAEL Not available	occupational exposure
Ethylbenzene	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1.1 mg/l	2 years
Ethylbenzene	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	103 weeks
Ethylbenzene	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 3.4 mg/l	28 days
Ethylbenzene	Inhalation	auditory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.4 mg/l	5 days
Ethylbenzene	Inhalation	endocrine system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3.3 mg/l	103 weeks
Ethylbenzene	Inhalation	bone, teeth, nails, and/or hair | muscles	All data are negative	Multiple animal species	NOAEL 4.2 mg/l	90 days
Ethylbenzene	Inhalation	heart | immune system | respiratory system	All data are negative	Multiple animal species	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Ingestion	liver | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 680 mg/kg/day	6 months
Carbon black	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	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
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	Inhalation	blood	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.00025 mg/l	4 weeks

Aspiration Hazard

Name	Value
Xylene	Aspiration hazard
Ethylbenzene	Aspiration hazard
Distillates (petroleum), hydrotreated middle	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 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 Nbr	Organism	Type	Exposure	Test endpoint	Test result
terbutryn	886-50-0	Rainbow trout	Experimental	96 hours	LC50	0.82 mg/l
terbutryn	886-50-0	Water flea	Experimental	48 hours	EC50	7.1 mg/l
terbutryn	886-50-0	Green algae	Experimental	72 hours	EC50	0.003 mg/l
2-Methoxy-1-methylethyl acetate	108-65-6	Fathead minnow	Experimental	96 hours	LC50	161 mg/l
2-Methoxy-1-methylethyl acetate	108-65-6	Water flea	Experimental	48 hours	EC50	373 mg/l
Barium Sulfate	7727-43-7	Fish other	Experimental	96 hours	LC50	>100 mg/l
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	Zebra Fish	Estimated	96 hours	LC50	>100 mg/l
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	Water flea	Estimated	48 hours	EC50	>100 mg/l
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	Green algae	Estimated	72 hours	EC50	>100 mg/l
Ethylbenzene	100-41-4	Water flea	Experimental	24 hours	EC50	1.81 mg/l
Ethylbenzene	100-41-4	Green Algae	Experimental	96 hours	EC50	3.6 mg/l
Ethylbenzene	100-41-4	Rainbow trout	Experimental	96 hours	LC50	4.2 mg/l
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
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	Water flea	Estimated	48 hours	EC50	17.4 mg/l
3-Isocyanatomet	4098-71-9	Green algae	Estimated	72 hours	EC50	>50 mg/l

hyl-3,5,5-trimethylcyclohexyl isocyanate						
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	Golden Orfe	Estimated	96 hours	LC50	110 mg/l
2-octyl-2H-isothiazol-3-one	26530-20-1	Rainbow trout	Experimental	96 hours	LC50	0.047 mg/l
Phenol, isopropylated, phosphate (3:1)	68937-41-7	Fathead minnow	Estimated	96 hours	LC50	3.08 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
p-toluenesulphonyl isocyanate	4083-64-1	Green Algae	Experimental	72 hours	EC50	23 mg/l
p-toluenesulphonyl isocyanate	4083-64-1	Ricefish	Experimental	96 hours	LC50	435 mg/l
p-toluenesulphonyl isocyanate	4083-64-1	Water flea	Experimental	24 hours	EC50	150 mg/l
Triphenyl Phosphate	115-86-6	Water flea	Experimental	48 hours	EC50	1 mg/l
Triphenyl Phosphate	115-86-6	Green algae	Experimental	72 hours	EC50	4 mg/l
Triphenyl Phosphate	115-86-6	Rainbow trout	Experimental	96 hours	LC50	0.85 mg/l
2-Methoxy-1-methylethyl acetate	108-65-6	Water flea	Experimental	21 days	NOEC	>=100 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
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	Green algae	Estimated	72 hours	Effect Concentration 10%	11.2 mg/l
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	Water flea	Estimated	21 days	NOEC	3 mg/l
Titanium	13463-67-7	Fish	Experimental	30 days	NOEC	>100 mg/l

dioxide						
Titanium dioxide	13463-67-7	Water flea	Experimental	30 days	NOEC	3 mg/l
p-toluenesulphonyl isocyanate	4083-64-1	Water flea	Experimental	21 days	NOEC	47 mg/l
Triphenyl Phosphate	115-86-6	Water flea	Experimental	21 days	NOEC	0.25 mg/l
Triphenyl Phosphate	115-86-6	Green algae	Experimental	72 hours	NOEC	0.98 mg/l
Triphenyl Phosphate	115-86-6	Fathead minnow	Experimental	90 days	NOEC	0.087 mg/l
2-ethylhexyl (6-isocyanatohexyl)-carbamate	26488-60-8		Data not available or insufficient for classification			
bis(2-ethylhexyl) 1,6-hexan-1,6-diylbiscarbamate	76977-79-2		Data not available or insufficient for classification			
1,6-Hexanediyl-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl)carbamate	140921-24-0		Data not available or insufficient for classification			
Carbon black	1333-86-4		Data not available or insufficient for classification			
Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 2-oxepanone	426822-87-9		Data not available or insufficient for classification			
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	53880-05-0		Data not available or insufficient for classification			
Distillates (petroleum), hydrotreated middle	64742-46-7		Data not available or insufficient for classification			
Xylene	1330-20-7		Data not available or			

			insufficient for classification			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Distillates (petroleum), hydrotreated middle	64742-46-7	Estimated Photolysis		Photolytic half-life (in air)	2.45 days (t 1/2)	Other methods
Ethylbenzene	100-41-4	Experimental Photolysis		Photolytic half-life (in air)	4.26 days (t 1/2)	Other methods
p-toluenesulphonyl isocyanate	4083-64-1	Estimated Hydrolysis		Hydrolytic half-life	<10 minutes (t 1/2)	Other methods
1,6-Hexanediyl-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl)carbamate	140921-24-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Triphenyl Phosphate	115-86-6	Experimental Hydrolysis		Hydrolytic half-life	19 days (t 1/2)	Other methods
2-ethylhexyl (6-isocyanatohexyl)-carbamate	26488-60-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 2-oxepanone	426822-87-9	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
Phenol, isopropylated, phosphate (3:1)	68937-41-7	Experimental Biodegradation	26 days	Dissolv. Organic Carbon Deplet	94.3 % weight	OECD 301A - DOC Die Away Test
p-toluenesulphonyl isocyanate	4083-64-1	Experimental Biodegradation	28 days	BOD	3 % weight	OECD 301C - MITI test (I)
bis(2-ethylhexyl) 1,6-hexan-1,6-diylbiscarbamate	76977-79-2	Estimated Biodegradation	28 days	BOD	1 % weight	OECD 301F - Manometric respirometry
2-Methoxy-1-methylethyl acetate	108-65-6	Experimental Biodegradation	28 days	BOD	87.2 % weight	OECD 301C - MITI test (I)
Quaternary	68953-58-2	Data not	N/A	N/A	N/A	N/A

ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite		available or insufficient for classification				
terbutryn	886-50-0	Estimated Biodegradation	28 days	CO2 evolution	0 % weight	OECD 301B - Modified sturm or CO2
Triphenyl Phosphate	115-86-6	Experimental Biodegradation	28 days	BOD	90 % weight	OECD 301C - MITI test (I)
Barium Sulfate	7727-43-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Ethylbenzene	100-41-4	Laboratory Biodegradation	14 days	BOD	81 % weight	Other methods
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate	4098-71-9	Estimated Biodegradation	28 days	BOD	0 % 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
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	53880-05-0	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)
2-octyl-2H-isothiazol-3-one	26530-20-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Xylene	1330-20-7	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

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
2-ethylhexyl (6-isocyanatohexy	26488-60-8	Data not available or insufficient for	N/A	N/A	N/A	N/A

l)-carbamate		classification				
Carbonic acid, dimethyl ester, polymer with 1,6-hexanediol, 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and 2-oxepanone	426822-87-9	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
Barium Sulfate	7727-43-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Xylene	1330-20-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Phenol, isopropylated, phosphate (3:1)	68937-41-7	Estimated Bioconcentration		Bioaccumulation factor	13.4	Estimated: Bioconcentration factor
bis(2-ethylhexyl) 1,6-hexan-1,6-diylbiscarbamate	76977-79-2	Estimated Bioconcentration		Bioaccumulation factor	246	Estimated: Bioconcentration factor
1,6-Hexanediyl-bis(2-(2-(1-ethylpentyl)-3-oxazolidinyl)ethyl)carbamate	140921-24-0	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Quaternary ammonium compounds, bis(hydrogenated tallow alkyl)dimethyl, salts with bentonite	68953-58-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
terbutryn	886-50-0	Estimated Bioconcentration		Bioaccumulation factor	174	Estimated: Bioconcentration factor
Triphenyl Phosphate	115-86-6	Experimental BCF - Rainbow Tr	90 days	Bioaccumulation factor	271	Other methods
Ethylbenzene	100-41-4	Experimental BCF - Other		Bioaccumulation factor	15	Other methods
Titanium	13463-67-7	Experimental	42 days	Bioaccumulati	9.6	Other methods

dioxide		BCF-Carp		on factor		
3-Isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate, oligomers	53880-05-0	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
2-octyl-2H-isothiazol-3-one	26530-20-1	Experimental BCF - Bluegill	67 days	Bioaccumulation factor	165	Other methods
p-toluenesulphonyl isocyanate	4083-64-1	Experimental Bioconcentration		Log Kow	0.82	Other methods
2-Methoxy-1-methylethyl acetate	108-65-6	Experimental Bioconcentration		Log Kow	0.36	Other methods
Distillates (petroleum), hydrotreated middle	64742-46-7	Estimated Bioconcentration		Log Kow	4.61	Estimated: Octanol-water partition coefficient

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. 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 01 11* Waste paint and varnish containing organic solvents or other dangerous substances

SECTION 14: Transportation information

GR-2001-0526-4, GR-2001-3900-8

ADR/RID: UN1263, PAINT RELATED MATERIAL, 3., III, (D/E), ADR Classification Code: F1.
IMDG-CODE: UN1263, PAINT RELATED MATERIAL, 3, III, IMDG-Code segregation code: NONE, EMS: FE,SE.
ICAO/IATA: UN1263, PAINT RELATED MATERIAL, 3., III.

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
Carbon black	1333-86-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Ethylbenzene	100-41-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Titanium dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Xylene	1330-20-7	Gr. 3: Not classifiable	International Agency for Research on Cancer

Global inventory status
Contact 3M for more 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

EUH014	Reacts violently with water.
EUH066	Repeated exposure may cause skin dryness or cracking.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361df	Suspected of damaging fertility. Suspected of damaging the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.

H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

List of relevant R-phrases

R10	Flammable.
R11	Highly flammable.
R14	Reacts violently with water.
R20	Harmful by inhalation.
R21	Harmful in contact with skin.
R22	Harmful if swallowed.
R23	Toxic by inhalation.
R24	Toxic in contact with skin.
R34	Causes burns.
R36	Irritating to eyes.
R37	Irritating to respiratory system.
R38	Irritating to skin.
R42	May cause sensitisation by inhalation.
R42/43	May cause sensitisation by inhalation and skin contact.
R43	May cause sensitisation by skin contact.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R50/53	Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R51/53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R52	Harmful to aquatic organisms.
R52/53	Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R62	Possible risk of impaired fertility.
R63	Possible risk of harm to the unborn child.
R65	Harmful: May cause lung damage if swallowed.
R66	Repeated exposure may cause skin dryness or cracking.

Revision information:

Revision Changes:
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
CLP: Ingredient table information was modified.
Label: Graphic Text information was modified.
Label: Graphic information was modified.
Label: Graphic Text information was deleted.
Section 8: Skin protection - recommended gloves information information was deleted.
Section 8: Respiratory protection - recommended respirators information information was modified.
Risk phrase information was modified.
Section 8: Personal Protection - Skin/body information information was modified.
Section 01: 1.3. Details of the supplier of the safety data sheet heading 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 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Copyright information was modified.
Label: Signal Word information was modified.
Label: CLP Percent Unknown information was modified.
Label: CLP Percent Unknown information was modified.

Label: CLP Precautionary - Prevention information was modified.
CLP: Ingredient table information was modified.
Section 8: Occupational exposure limit table information was modified.
Section 8: Occupational exposure limit table information was added.
OEL Reg Agency Desc information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Exposure Duration table heading information was deleted.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Additional Health Effects heading information was modified.
Section 11: Reproductive/Developmental Toxicity heading information was added.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Test Result table heading information was deleted.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was modified.
Section 11: Health Effects - Eye information information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 11: Health Effects - Ingestion information information was modified.
Section 11: Reproductive Hazards information information was added.
Section 6: Accidental release personal 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 13: Standard Phrase Category Waste GHS 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.
Label: Graphic Text information was modified.
Label: Graphic Text information was added.
Section 11: Single exposure may cause target organ effects heading information was modified.
Section 11: Prolonged or repeated exposure may cause target organ effects heading information was modified.
Section 11: Aspiration Hazard table - Name heading information was added.
Section 11: Aspiration Hazard table - Value heading information was added.
Label: Graphic information was modified.
Section 11: Respiratory Sensitization table - Name heading information was added.
Section 11: Respiratory Sensitization table - Species heading information was added.
Section 11: Respiratory Sensitization table - Value heading information was added.
Section 11: Skin Sensitization table - Name heading information was added.
Section 11: Skin Sensitization table - Species heading information was added.
Section 11: Skin Sensitization table - Value heading information was added.
Section 11: Serious Eye Damage/Irritation table - Name heading information was added.
Section 11: Serious Eye Damage/Irritation table - Species heading information was added.
Section 11: Serious Eye Damage/Irritation table - Value heading information was added.
Section 11: Skin Corrosion/Irritation table - Name heading information was added.
Section 11: Skin Corrosion/Irritation table - Species heading information was added.
Section 11: Skin Corrosion/Irritation table - Value heading information was added.
Section 11: Germ Cell Mutagenicity table - Name heading information was added.
Section 11: Germ Cell Mutagenicity table - Route heading information was added.
Section 11: Germ Cell Mutagenicity table - Value heading information was added.
Section 11: Specific Target Organ Toxicity - repeated exposure table - Name heading information was added.
Section 11: Specific Target Organ Toxicity - repeated exposure table - Route heading information was added.
Section 11: Specific Target Organ Toxicity - repeated exposure table - Target Organ(s) heading information was added.
Section 11: Specific Target Organ Toxicity - repeated exposure table - Value heading information was added.
Section 11: Specific Target Organ Toxicity - repeated exposure table - Species heading information was added.
Section 11: Specific Target Organ Toxicity - repeated exposure table - Test Result heading information was added.

Section 11: Specific Target Organ Toxicity - repeated exposure table - Exposure Duration heading information was added.
Section 11: Specific Target Organ Toxicity - single exposure table - Name heading information was added.
Section 11: Specific Target Organ Toxicity - single exposure table - Route heading information was added.
Section 11: Specific Target Organ Toxicity - single exposure table - Target Organ(s) heading information was added.
Section 11: Specific Target Organ Toxicity - single exposure table - Value heading information was added.
Section 11: Specific Target Organ Toxicity - single exposure table - Species heading information was added.
Section 11: Specific Target Organ Toxicity - single exposure table - Test Result heading information was added.
Section 11: Specific Target Organ Toxicity - single exposure table - Exposure Duration heading information was added.
Section 11: Reproductive and/or Developmental Effects table - Name heading information was added.
Section 11: Reproductive and/or Developmental Effects table - Route heading information was added.
Section 11: Reproductive and/or Developmental Effects table - Value heading information was added.
Section 11: Reproductive and/or Developmental Effects table - Species heading information was added.
Section 11: Reproductive and/or Developmental Effects table - Test Result heading information was added.
Section 11: Reproductive and/or Developmental Effects text information was added.
Section 11: Carcinogenicity table - Name heading information was added.
Section 11: Carcinogenicity table - Route heading information was added.
Section 11: Carcinogenicity table - Species heading information was added.
Section 11: Carcinogenicity table - Value heading information was added.
Section 8: glove data - Material heading information was added.
Section 8: glove data - Thickness heading information was added.
Section 8: glove data - Breakthrough Time heading information was added.
Section 8: glove data value information was added.
Section 8: glove data value information was added.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M United Kingdom MSDSs are available at www.3M.com/uk