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 Polyurethane Sealant 540 (Various Colours)

Product Identification Numbers

DS-2729-9107-8	DS-2729-9138-3	DS-2729-9143-3	DS-2729-9147-4	DS-2729-9151-6
FI-3000-0000-2	FI-3000-0150-5	FI-3000-0151-3	FI-3000-0155-4	
7000070301	7000070297	7000070298	7000070299	7000070288
7000077193	7000077264	7000077265	7000077268	

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

Identified uses

Adhesive

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:

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

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

HAZARD STATEMENTS:

H412	Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Disposal:

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

SUPPLEMENTAL INFORMATION:

Supplemental Hazard Statements:

EUH208	Contains Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate. | 4,4'-methylenediphenyl diisocyanate. May produce an allergic reaction.

Notes on labelling
All or part of the classification is based on toxicity test data.
Not classified Eye 2A based on test data.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
Urethane Polymer	Trade Secret			15 - 40	Substance not classified as hazardous
Poly(Vinyl Chloride)	9002-86-2	618-338-8		20 - 35	Substance with a Community level exposure limit in the workplace
Plasticizer	Trade Secret			10 - 30	Substance not classified as hazardous
Calcium Oxide	1305-78-8	215-138-9		< 5	EUH071; Skin Corr. 1C, H314
Titanium dioxide	13463-67-7	236-675-5		< 5	Substance with a Community level exposure limit in the workplace
Xylene	1330-20-7	215-535-7	01-2119488216-32	< 5	Flam. Liq. 3, H226; Acute Tox. 4, H332; Acute Tox. 4, H312; Skin Irrit. 2, H315 - Nota C Aquatic Chronic 3, H412 Asp. Tox. 1, H304; Eye Irrit. 2, H319; STOT SE 3, H335; STOT RE 2, H373
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Trade Secret			< 5	Substance not classified as hazardous
Diiron trioxide	1309-37-1	215-168-2		< 5	Substance with a Community

					level exposure limit in the workplace
Triiron tetraoxide	1317-61-9	215-277-5		< 5	Substance not classified as hazardous
Distillates (petroleum), hydrotreated light	64742-47-8	265-149-8		< 5	Asp. Tox. 1, H304 Aquatic Chronic 2, H411 Flam. Liq. 3, H226; Skin Irrit. 2, H315; STOT SE 3, H336
Diisononyl Phthalate	28553-12-0	249-079-5		< 5	Substance with a Community level exposure limit in the workplace
Ethylbenzene	100-41-4	202-849-4		< 5	Flam. Liq. 2, H225; Acute Tox. 4, H332; Asp. Tox. 1, H304; STOT RE 2, H373 Aquatic Chronic 3, H412
Chromium (III) oxide	1308-38-9	215-160-9		< 1	Substance with a Community level exposure limit in the workplace
Iron hydroxide oxide	20344-49-4	243-746-4		<= 1.99	Substance not classified as hazardous
Carbon black	1333-86-4	215-609-9	01-2119384822-32	< 0.3	Substance with a Community level exposure limit in the workplace
cobalt chromite blue green spinel	68187-11-1	269-072-0		<= 0.13	Substance with a Community level exposure limit in the workplace
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate		915-687-0		< 0.1	Aquatic Acute 1, H400,M=1; Aquatic Chronic 1, H410,M=1 Skin Sens. 1A, H317
4,4'-methylenediphenyl diisocyanate	101-68-8	202-966-0		< 0.1	Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Resp. Sens. 1, H334; Skin Sens. 1, H317; Carc. 2, H351; STOT SE 3, H335; STOT RE 2, H373 - Nota 2,C

Note: Any entry in the EC# column that begins with the numbers 6, 7, 8, or 9 are a Provisional List Number provided by ECHA pending publication of the official EC Inventory Number for the substance.
Please see section 16 for the full text of any H statements referred to in this section

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
Wash with soap and water. 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 carbon dioxide or dry chemical extinguisher to extinguish.

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

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

5.3. Advice for fire-fighters
Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible.

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Do not breathe

dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment. Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from heat. Store away from amines.

7.3. Specific end use(s)
See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits
If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Ethylbenzene	100-41-4	UK HSC	TWA:441 mg/m3(100 ppm);STEL:552 mg/m3(125 ppm)	SKIN
Free isocyanates	101-68-8	UK HSC	TWA(as NCO):0.02 mg/m3;STEL(as NCO):0.07 mg/m3	Respiratory Sensitizer
Calcium Oxide	1305-78-8	UK HSC	TWA(respirable fraction):1 mg/m3;TWA:2 mg/m3;STEL(respirable fraction):4 mg/m3	
Chromium (III) oxide	1308-38-9	UK HSC	TWA(as Cr):0.5 mg/m3	
DUST, INERT OR NUISANCE	1309-37-1	UK HSC	TWA(as inhalable dust):10 mg/m³;TWA(as respirable dust):4 mg/m³	
Diiron trioxide	1309-37-1	UK HSC	TWA(as Fe, fume):5 mg/m3;TWA(Inhalable):10 mg/m3;TWA(respirable):4 mg/m3;STEL(as Fe, fume):10 mg/m3	
Xylene	1330-20-7	UK HSC	TWA:220 mg/m3(50 ppm);STEL:441 mg/m3(100 ppm)	SKIN
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	
Diisononyl Phthalate	28553-12-0	UK HSC	TWA:5 mg/m3	
Chromium (III) oxide	68187-11-1	UK HSC	TWA(as Cr):0.5 mg/m3	
Cobalt compounds	68187-11-1	UK HSC	TWA(as Co):0.1 mg/m3	Respiratory Sensitizer
Poly(Vinyl Chloride)	9002-86-2	UK HSC	TWA(as inhalable dust):10 mg/m³;TWA(as respirable dust):4 mg/m³	

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
Free isocyanates	101-68-8	UK EH40 BMGVs	Isocyanate-derived diamine	Creatinine in urine	EPE	1 umol/mol	
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.
EPE: At the end of the period of exposure.

Derived no effect level (DNEL)

Ingredient	Degradation Product	Population	Human exposure pattern	DNEL
Xylene		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	180 mg/kg bw/d
Xylene		Worker	Inhalation, Long-term exposure (8 hours), Local effects	77 mg/m³
Xylene		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	77 mg/m³
Xylene		Worker	Inhalation, Short-term exposure, Local effects	289 mg/m³
Xylene		Worker	Inhalation, Short-term exposure, Systemic effects	289 mg/m³

Predicted no effect concentrations (PNEC)

Ingredient	Degradation Product	Compartment	PNEC
Xylene		Agricultural soil	2.31 mg/kg d.w.
Xylene		Freshwater	0.327 mg/l
Xylene		Freshwater sediments	12.46 mg/kg d.w.
Xylene		Marine water	0.327 mg/l
Xylene		Marine water sediments	12.46 mg/kg d.w.
Xylene		Sewage Treatment Plant	6.58 mg/l

8.2. Exposure controls

In addition, refer to the annex for more information.

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
None required.

Skin/hand protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.
Gloves made from the following material(s) are recommended:

Material	Thickness (mm)	Breakthrough Time
Polymer laminate	No data available	No data available

Applicable Norms/Standards
Use gloves tested to EN 374

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

Applicable Norms/Standards
Use a respirator conforming to EN 140 or EN 136: filter types A & P

8.2.3. Environmental exposure controls
Refer to Annex

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Paste
Appearance/Odour	Mild xylene odour
Odour threshold	*No data available.*
pH	*Not applicable.*
Boiling point/boiling range	>=136 ºC
Melting point	*No data available.*
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	No flash point
Autoignition temperature	>=200 ºC
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*Not applicable.*
Relative density	1.17 [*Ref Std:*WATER=1]
Water solubility	Nil
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*No data available.*
Vapour density	*Not applicable.*
Decomposition temperature	*No data available.*
Viscosity	>=300,000 mPa-s [@ 23 ºC]

Density	1.17 g/ml

9.2. Other information

EU Volatile Organic Compounds	*No data available.*
Molecular weight	*No data available.*

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
Heat.

10.5 Incompatible materials
Amines.
Alcohols.
Water

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. May cause additional health effects (see below).

Skin contact
Mild Skin Irritation: Signs/symptoms may include localised redness, swelling, itching, and dryness.

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.

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapour(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Poly(Vinyl Chloride)	Dermal		LD50 estimated to be > 5,000 mg/kg
Poly(Vinyl Chloride)	Ingestion		LD50 estimated to be > 5,000 mg/kg
Plasticizer	Dermal	Rat	LD50 > 1,000 mg/kg
Plasticizer	Ingestion	Rat	LD50 > 5,000 mg/kg
Xylene	Dermal	Rabbit	LD50 > 4,200 mg/kg
Xylene	Inhalation-Vapour (4 hours)	Rat	LC50 29 mg/l
Xylene	Ingestion	Rat	LD50 3,523 mg/kg
Diiron trioxide	Dermal	Not available	LD50 3,100 mg/kg
Diiron trioxide	Ingestion	Not available	LD50 3,700 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
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Dermal		LD50 estimated to be > 5,000 mg/kg
Triiron tetraoxide	Dermal	Not available	LD50 3,100 mg/kg
Triiron tetraoxide	Ingestion	Not available	LD50 3,700 mg/kg
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Ingestion	Rat	LD50 10,000 mg/kg
Calcium Oxide	Ingestion	Rat	LD50 > 2,500 mg/kg
Distillates (petroleum), hydrotreated light	Dermal	Rabbit	LD50 > 3,160 mg/kg
Distillates (petroleum), hydrotreated light	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 3 mg/l
Distillates (petroleum), hydrotreated light	Ingestion	Rat	LD50 > 5,000 mg/kg
Diisononyl Phthalate	Dermal	Rabbit	LD50 > 3,160 mg/kg
Diisononyl Phthalate	Inhalation-	Rat	LC50 > 1.7 mg/l

	Dust/Mist (4 hours)		
Diisononyl Phthalate	Ingestion	Rat	LD50 > 10,000 mg/kg
Ethylbenzene	Dermal	Rabbit	LD50 15,433 mg/kg
Ethylbenzene	Inhalation-Vapour (4 hours)	Rat	LC50 17.4 mg/l
Ethylbenzene	Ingestion	Rat	LD50 4,769 mg/kg
Chromium (III) oxide	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Chromium (III) oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.41 mg/l
Chromium (III) oxide	Ingestion	Rat	LD50 > 5,000 mg/kg
Iron hydroxide oxide	Dermal		LD50 estimated to be > 5,000 mg/kg
Iron hydroxide oxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Carbon black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon black	Ingestion	Rat	LD50 > 8,000 mg/kg
cobalt chromite blue green spinel	Dermal		LD50 estimated to be > 5,000 mg/kg
cobalt chromite blue green spinel	Ingestion	Rabbit	LD50 > 5,000 mg/kg
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Ingestion	Rat	LD50 3,125 mg/kg
4,4'-methylenediphenyl diisocyanate	Dermal	Rabbit	LD50 > 5,000 mg/kg
4,4'-methylenediphenyl diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
4,4'-methylenediphenyl diisocyanate	Ingestion	Rat	LD50 31,600 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Poly(Vinyl Chloride)	Professional judgement	No significant irritation
Xylene	Rabbit	Mild irritant
Diiron trioxide	Rabbit	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Rabbit	No significant irritation
Triiron tetraoxide	Rabbit	No significant irritation
Calcium Oxide	Human	Corrosive
Distillates (petroleum), hydrotreated light	Rabbit	Mild irritant
Diisononyl Phthalate	Rabbit	No significant irritation
Ethylbenzene	Rabbit	Mild irritant
Chromium (III) oxide	Rabbit	No significant irritation
Iron hydroxide oxide	Rabbit	No significant irritation
Carbon black	Rabbit	No significant irritation
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Rabbit	No significant irritation
4,4'-methylenediphenyl diisocyanate	official classification	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	Rabbit	Mild irritant
Xylene	Rabbit	Mild irritant
Diiron trioxide	Rabbit	No significant irritation

Titanium dioxide	Rabbit	No significant irritation
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Rabbit	No significant irritation
Triiron tetraoxide	Rabbit	No significant irritation
Calcium Oxide	Rabbit	Corrosive
Distillates (petroleum), hydrotreated light	Rabbit	Mild irritant
Diisononyl Phthalate	Rabbit	Mild irritant
Ethylbenzene	Rabbit	Moderate irritant
Chromium (III) oxide	Rabbit	No significant irritation
Iron hydroxide oxide	Rabbit	No significant irritation
Carbon black	Rabbit	No significant irritation
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Rabbit	No significant irritation
4,4'-methylenediphenyl diisocyanate	official classification	Severe irritant

Skin Sensitisation

Name	Species	Value
Diiron trioxide	Human	Not classified
Titanium dioxide	Human and animal	Not classified
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Human	Not classified
Triiron tetraoxide	Human	Not classified
Distillates (petroleum), hydrotreated light	Guinea pig	Not classified
Diisononyl Phthalate	Human and animal	Not classified
Ethylbenzene	Human	Not classified
Chromium (III) oxide	similar compounds	Not classified
Iron hydroxide oxide	Human and animal	Not classified
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	Guinea pig	Sensitising
4,4'-methylenediphenyl diisocyanate	official classification	Sensitising

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
Poly(Vinyl Chloride)	In Vitro	Not mutagenic
Xylene	In Vitro	Not mutagenic
Xylene	In vivo	Not mutagenic
Diiron trioxide	In Vitro	Not mutagenic
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	In Vitro	Not mutagenic
Triiron tetraoxide	In Vitro	Not mutagenic
Calcium Oxide	In Vitro	Not mutagenic
Distillates (petroleum), hydrotreated light	In Vitro	Not mutagenic
Diisononyl Phthalate	In Vitro	Not mutagenic
Ethylbenzene	In vivo	Not mutagenic
Ethylbenzene	In Vitro	Some positive data exist, but the data are not

		sufficient for classification
Chromium (III) oxide	In vivo	Not mutagenic
Chromium (III) oxide	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
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	In Vitro	Not mutagenic
4,4'-methylenediphenyl diisocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Poly(Vinyl Chloride)	Not specified.	Rat	Some positive data exist, but the data are not sufficient for classification
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
Diiron trioxide	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.
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Ingestion	Mouse	Not carcinogenic
Triiron tetraoxide	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
Distillates (petroleum), hydrotreated light	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Diisononyl Phthalate	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Ethylbenzene	Inhalation	Multiple animal species	Carcinogenic.
Chromium (III) oxide	Ingestion	Rat	Not carcinogenic
Iron hydroxide oxide	Inhalation	Rat	Not carcinogenic
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.
4,4'-methylenediphenyl diisocyanate	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Poly(Vinyl Chloride)	Not specified.	Not classified for development	Mouse	NOAEL Not available	during gestation
Xylene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
Xylene	Ingestion	Not classified for development	Mouse	NOAEL Not available	during organogenesis
Xylene	Inhalation	Not classified for development	Multiple animal species	NOAEL Not available	during gestation
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000	42 days

				mg/kg/day	
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Diisononyl Phthalate	Ingestion	Not classified for female reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
Diisononyl Phthalate	Ingestion	Not classified for male reproduction	Rat	NOAEL 500 mg/kg/day	2 generation
Diisononyl Phthalate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during organogenesis
Ethylbenzene	Inhalation	Not classified for development	Rat	NOAEL 4.3 mg/l	premating & during gestation
Chromium (III) oxide	Ingestion	Not classified for female reproduction	Rat	NOAEL 2,000 mg/kg/day	90 days
Chromium (III) oxide	Ingestion	Not classified for male reproduction	Rat	NOAEL 2,000 mg/kg/day	90 days
Chromium (III) oxide	Ingestion	Not classified for development	Rat	NOAEL 2,000 mg/kg/day	90 days
4,4'-methylenediphenyl diisocyanate	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis

Lactation

Name	Route	Species	Value
Xylene	Ingestion	Mouse	Not classified for 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	Not classified	Rat	NOAEL 3.5 mg/l	not available
Xylene	Inhalation	liver	Not classified	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	Not classified	Rat	NOAEL 250 mg/kg	not applicable
Calcium Oxide	Inhalation	respiratory irritation	May cause respiratory irritation	Not available	NOAEL Not available	occupational exposure
Distillates (petroleum), hydrotreated light	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Distillates (petroleum), hydrotreated light	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Distillates (petroleum), hydrotreated light	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Ethylbenzene	Inhalation	central nervous	May cause drowsiness or	Human	NOAEL Not	

		system depression	dizziness		available	
Ethylbenzene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human and animal	NOAEL Not available	
Ethylbenzene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
Chromium (III) oxide	Inhalation	respiratory system	Not classified	Rat	NOAEL 40 mg	
4,4'-methylenediphenyl diisocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Poly(Vinyl Chloride)	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 0.013 mg/l	22 months
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	Not classified	Multiple animal species	NOAEL Not available	
Xylene	Inhalation	heart | endocrine system | gastrointestinal tract | hematopoietic system | muscles | kidney and/or bladder | respiratory system	Not classified	Multiple animal species	NOAEL 3.5 mg/l	13 weeks
Xylene	Ingestion	auditory system	Not classified	Rat	NOAEL 900 mg/kg/day	2 weeks
Xylene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,500 mg/kg/day	90 days
Xylene	Ingestion	liver	Not classified	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	Not classified	Mouse	NOAEL 1,000 mg/kg/day	103 weeks
Diiron trioxide	Inhalation	pulmonary fibrosis | pneumoconiosis	Not classified	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 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Ingestion	endocrine system | hematopoietic system | respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Ingestion	kidney and/or bladder	Not classified	Multiple animal species	NOAEL Not available	not available
Triiron tetraoxide	Inhalation	pulmonary fibrosis |	Not classified	Human	NOAEL Not	occupational

		pneumoconiosis			available	exposure
Diisononyl Phthalate	Dermal	blood | liver | kidney and/or bladder	Not classified	Rabbit	NOAEL 2,425 mg/kg/day	6 weeks
Diisononyl Phthalate	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL not available	13 weeks
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	Not classified	Rat	NOAEL 3.4 mg/l	28 days
Ethylbenzene	Inhalation	auditory system	Not classified	Rat	NOAEL 2.4 mg/l	5 days
Ethylbenzene	Inhalation	endocrine system	Not classified	Mouse	NOAEL 3.3 mg/l	103 weeks
Ethylbenzene	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Inhalation	bone, teeth, nails, and/or hair | muscles	Not classified	Multiple animal species	NOAEL 4.2 mg/l	90 days
Ethylbenzene	Inhalation	heart | immune system | respiratory system	Not classified	Multiple animal species	NOAEL 3.3 mg/l	2 years
Ethylbenzene	Ingestion	liver | kidney and/or bladder	Not classified	Rat	NOAEL 680 mg/kg/day	6 months
Chromium (III) oxide	Inhalation	immune system | respiratory system | hematopoietic system | liver | kidney and/or bladder	Not classified	Rat	NOAEL 44 mg/m3	90 days
Iron hydroxide oxide	Inhalation	respiratory system | liver | kidney and/or bladder	Not classified	Rat	NOAEL 0.2 mg/l	14 days
Carbon black	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
4,4'-methylenediphenyl diisocyanate	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks

Aspiration Hazard

Name	Value
Xylene	Aspiration hazard
Distillates (petroleum), hydrotreated light	Aspiration hazard
Ethylbenzene	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 #	Organism	Type	Exposure	Test endpoint	Test result

3M Polyurethane Sealant 540 (Various Colours)

Urethane Polymer	Trade Secret		Data not available or insufficient for classification			
Poly(Vinyl Chloride)	9002-86-2		Data not available or insufficient for classification			
Plasticizer	Trade Secret	Water flea	Estimated	48 hours	EC50	>100 mg/l
Plasticizer	Trade Secret	Zebra Fish	Estimated	96 hours	LC50	>100 mg/l
Plasticizer	Trade Secret	Green algae	Estimated	72 hours	Effect Concentraion 0%	>100 mg/l
Calcium Oxide	1305-78-8	Common Carp	Experimental	96 hours	LC50	1,070 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
Xylene	1330-20-7	Green Algae	Estimated	73 hours	EC50	4.36 mg/l
Xylene	1330-20-7	Rainbow trout	Estimated	96 hours	LC50	2.6 mg/l
Xylene	1330-20-7	Water flea	Estimated	48 hours	EC50	3.82 mg/l
Xylene	1330-20-7	Green Algae	Estimated	73 hours	Effect Conc. 10% - Growth Rate	1.9 mg/l
Xylene	1330-20-7	Water flea	Estimated	7 days	NOEC	0.96 mg/l
Xylene	1330-20-7	Rainbow trout	Experimental	56 days	NOEC	>1.3 mg/l
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Trade Secret	Green algae	Estimated	72 hours	EC50	>100 mg/l
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Trade Secret	Water flea	Estimated	48 hours	EC50	>500 mg/l
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Trade Secret	Rainbow trout	Experimental	96 hours	LC50	355.6 mg/l
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Trade Secret	Green algae	Estimated	72 hours	Effect Concentration 10%	>100 mg/l
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Trade Secret	Water flea	Estimated	21 days	NOEC	>=1 mg/l
Diiron trioxide	1309-37-1	Golden Orfe	Experimental	48 hours	LC50	>1,000 mg/l
Triiron tetraoxide	1317-61-9	Green Algae	Experimental	72 hours	EC50	>50,000 mg/l
Triiron tetraoxide	1317-61-9	Water flea	Experimental	48 hours	EC50	>50,000 mg/l
Triiron tetraoxide	1317-61-9	Green Algae	Experimental	72 hours	Effect Concentraion 0%	>50,000 mg/l
Distillates (petroleum), hydrotreated light	64742-47-8	Green Algae	Estimated	72 hours	EC50	1 mg/l
Distillates (petroleum), hydrotreated light	64742-47-8	Rainbow trout	Estimated	96 hours	Lethal Level 50%	2 mg/l
Distillates (petroleum), hydrotreated light	64742-47-8	Water flea	Estimated	48 hours	Effect Level 50%	1.4 mg/l

Distillates (petroleum), hydrotreated light	64742-47-8	Green Algae	Estimated	72 hours	No obs Effect Level	1 mg/l
Distillates (petroleum), hydrotreated light	64742-47-8	Water flea	Estimated	21 days	No obs Effect Level	0.48 mg/l
Diisononyl Phthalate	28553-12-0	Green algae	Experimental	72 hours	EC50	>100 mg/l
Diisononyl Phthalate	28553-12-0	Water flea	Experimental	48 hours	EC50	>100 mg/l
Diisononyl Phthalate	28553-12-0	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Diisononyl Phthalate	28553-12-0	Green algae	Experimental	72 hours	NOEC	>100 mg/l
Diisononyl Phthalate	28553-12-0	Water flea	Experimental	21 days	NOEC	>100 mg/l
Ethylbenzene	100-41-4	Atlantic Silverside	Experimental	96 hours	LC50	5.1 mg/l
Ethylbenzene	100-41-4	Green Algae	Experimental	96 hours	EC50	3.6 mg/l
Ethylbenzene	100-41-4	Mysid Shrimp	Experimental	96 hours	LC50	2.6 mg/l
Ethylbenzene	100-41-4	Rainbow trout	Experimental	96 hours	LC50	4.2 mg/l
Ethylbenzene	100-41-4	Water flea	Experimental	48 hours	EC50	1.8 mg/l
Ethylbenzene	100-41-4	Water flea	Experimental	7 days	NOEC	0.96 mg/l
Chromium (III) oxide	1308-38-9	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Iron hydroxide oxide	20344-49-4		Data not available or insufficient for classification			
Carbon black	1333-86-4		Data not available or insufficient for classification			
cobalt chromite blue green spinel	68187-11-1		Data not available or insufficient for classification			
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Green algae	Experimental	72 hours	EC50	1.68 mg/l
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Zebra Fish	Experimental	96 hours	LC50	0.9 mg/l
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Green algae	Experimental	72 hours	NOEC	0.22 mg/l
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Water flea	Experimental	21 days	NOEC	1 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Green algae	Estimated	72 hours	EC50	>1,640 mg/l

4,4'-methylenediphenyl diisocyanate	101-68-8	Water flea	Estimated	24 hours	EC50	>1,000 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Zebra Fish	Estimated	96 hours	LC50	>1,000 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Green algae	Estimated	72 hours	NOEC	1,640 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Water flea	Estimated	21 days	NOEC	10 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Urethane Polymer	Trade Secret	Data not availbl-insufficient			N/A	
Poly(Vinyl Chloride)	9002-86-2	Data not availbl-insufficient			N/A	
Plasticizer	Trade Secret	Experimental Biodegradation	28 days	BOD	49 % weight	
Calcium Oxide	1305-78-8	Data not availbl-insufficient			N/A	
Titanium dioxide	13463-67-7	Data not availbl-insufficient			N/A	
Xylene	1330-20-7	Experimental Biodegradation	28 days	BOD	90-98 % BOD/ThBOD	OECD 301F - Manometric respirometry
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Trade Secret	Experimental Biodegradation	28 days	BOD	<1 % weight	OECD 301F - Manometric respirometry
Diiron trioxide	1309-37-1	Data not availbl-insufficient			N/A	
Triiron tetraoxide	1317-61-9	Data not availbl-insufficient			N/A	
Distillates (petroleum), hydrotreated light	64742-47-8	Data not availbl-insufficient			N/A	
Diisononyl Phthalate	28553-12-0	Experimental Biodegradation	28 days	CO2 evolution	81 % weight	Other methods
Ethylbenzene	100-41-4	Experimental Photolysis		Photolytic half-life (in air)	4.26 days (t 1/2)	Other methods
Ethylbenzene	100-41-4	Experimental Biodegradation	28 days	CO2 evolution	70-80 % weight	Other methods
Chromium (III) oxide	1308-38-9	Data not availbl-insufficient			N/A	
Iron hydroxide oxide	20344-49-4	Data not availbl-insufficient			N/A	
Carbon black	1333-86-4	Data not availbl-insufficient			N/A	
cobalt chromite blue green spinel	68187-11-1	Data not availbl-insufficient			N/A	
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Estimated Biodegradation	28 days	Dissolv. Organic Carbon Deplet	38 % weight	OECD 301E - Modified OECD Scre
4,4'-methylenediphenyl diisocyanate	101-68-8	Estimated Hydrolysis		Hydrolytic half-life	20 hours (t 1/2)	Other methods

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Urethane Polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Poly(Vinyl Chloride)	9002-86-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

Plasticizer	Trade Secret	Experimental BCF-Carp	36 days	Bioaccumulation factor	212	
Calcium Oxide	1305-78-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulation factor	9.6	Other methods
Xylene	1330-20-7	Experimental BCF - Rainbow Tr	56 days	Bioaccumulation factor	25.9	Other methods
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	Trade Secret	Experimental BCF-Carp	42 days	Bioaccumulation factor	<3.6	OECD 305E - Bioaccumulation flow-through fish test
Diiron trioxide	1309-37-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Triiron tetraoxide	1317-61-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Distillates (petroleum), hydrotreated light	64742-47-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Diisononyl Phthalate	28553-12-0	Estimated BCF - Rainbow Tr	14 days	Bioaccumulation factor	<3	Other methods
Ethylbenzene	100-41-4	Experimental BCF - Other	42 days	Bioaccumulation factor	1	Other methods
Chromium (III) oxide	1308-38-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Iron hydroxide oxide	20344-49-4	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
cobalt chromite blue green spinel	68187-11-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Reaction mass of Bis(1,2,2,6,6-pentamethyl-4-piperidyl) sebacate and Methyl 1,2,2,6,6-pentamethyl-4-piperidyl sebacate	915-687-0	Estimated BCF-Carp	56 days	Bioaccumulation factor	31.4	
4,4'-methylenediphenyl diisocyanate	101-68-8	Experimental BCF-Carp	28 days	Bioaccumulation factor	200	OECD 305E - Bioaccumulation flow-through fish test

12.4. Mobility in soil
Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative,

incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

08 04 09*	Waste adhesives and sealants containing organic solvents or other dangerous substances
20 01 27*	Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

DS-2729-9107-8, DS-2729-9138-3, DS-2729-9143-3, DS-2729-9147-4, DS-2729-9151-6, FI-3000-0000-2, FI-3000-0150-5, FI-3000-0151-3, FI-3000-0155-4

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
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
Diiron trioxide	1309-37-1	Gr. 3: Not classifiable	International Agency for Research on Cancer
4,4'-methylenediphenyl diisocyanate	101-68-8	Carc. 2	Regulation (EC) No. 1272/2008, Table 3.1
4,4'-methylenediphenyl diisocyanate	101-68-8	Gr. 3: Not classifiable	International Agency for Research on Cancer
Poly(Vinyl Chloride)	9002-86-2	Gr. 3: Not classifiable	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 manufacturer for more information The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance 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 Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. The components of this product are in compliance with the chemical notification requirements of

TSCA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory.

15.2. Chemical Safety Assessment
A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information

List of relevant H statements

EUH071	Corrosive to the respiratory tract.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
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.

Revision information:
Industrial Use of Adhesives and Sealants: Section 16: Annex information was modified.
Section 3: Composition/ Information of ingredients table information was modified.
Section 8: BLV table information was modified.
Legend description information was modified.
Section 8: Occupational exposure limit table information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Carcinogenicity Table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Reproductive and/or Developmental Effects text information was deleted.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 13: 13.1. Waste disposal note information was modified.

Annex

3M Polyurethane Sealant 540 (Various Colours)

1. Title	
Substance identification	Xylene; EC No. 215-535-7; CAS Nbr 1330-20-7;
Exposure Scenario Name	Formulation
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC 08b -Transfer of substance or mixture (charging and discharging) at dedicated facilities ERC 02 -Formulation into mixture
Processes, tasks and activities covered	Transfer of substance/mixture with dedicated engineering controls. Transfers without dedicated controls, including loading, filling, dumping, bagging.
2. Operational conditions and risk management measures	
Operating Conditions	**Physical state:**Liquid. **General operating conditions:** Assumes use at not more than 20°C above ambient temperature; Duration of use: 8 hours/day; Emission days per year: 300 days/year; Indoors with enhanced general ventilation;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** None needed; **Environmental:** Municipal Sewage Treatment Plant;
Waste management measures	Do not apply industrial sludge to natural soils;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	Xylene; EC No. 215-535-7; CAS Nbr 1330-20-7;
Exposure Scenario Name	Industrial Use of Adhesives and Sealants
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 07 -Industrial spraying PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC 10 -Roller application or brushing ERC 04 -Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
Processes, tasks and activities covered	Application of product with a roller or brush. Spraying of substances/mixtures. Transfers without dedicated controls, including loading, filling, dumping, bagging.
2. Operational conditions and risk management measures	
Operating Conditions	**Physical state:**Liquid. **General operating conditions:** Assumes use at not more than 20°C above ambient temperature; Duration of use: 8 hours/day; Emission days per year: 300 days/year; Indoors with good general ventilation;

Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** None needed; **Environmental:** Municipal Sewage Treatment Plant; ; The following task-specific risk management measures apply in addition to those listed above: **Task: Spraying**; **Human Health**; Half-facepiece air-purifying respirator; **Task: Transferring Material**; **Human Health**; Provide extract ventilation to points where emissions occur; **Task: PROC10**; **Human Health**; Provide extract ventilation to points where emissions occur;
Waste management measures	Do not apply industrial sludge to natural soils;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	Xylene; EC No. 215-535-7; CAS Nbr 1330-20-7;
Exposure Scenario Name	Industrial Use of Coatings
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 05 -Mixing or blending in batch processes PROC 07 -Industrial spraying PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC 10 -Roller application or brushing ERC 04 -Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
Processes, tasks and activities covered	Application of product with a roller or brush. Mixing or blending of solid or liquid materials. Spraying of substances/mixtures. Transfers without dedicated controls, including loading, filling, dumping, bagging.
2. Operational conditions and risk management measures	
Operating Conditions	**Physical state:**Liquid. **General operating conditions:** Assumes use at not more than 20°C above ambient temperature; Duration of use: 8 hours/day; Emission days per year: 300 days/year; Indoors with good general ventilation;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** None needed; **Environmental:** Municipal Sewage Treatment Plant; ;

	The following task-specific risk management measures apply in addition to those listed above: **Task: Spraying**; **Human Health**; Half-facepiece air-purifying respirator; **Task: Mixing**; **Human Health**; Provide extract ventilation to points where emissions occur;
Waste management measures	Do not apply industrial sludge to natural soils;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	Xylene; EC No. 215-535-7; CAS Nbr 1330-20-7;
Exposure Scenario Name	Professional Use of Adhesives and Sealants
Lifecycle Stage	Widespread use by professional workers
Contributing activities	PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC 10 -Roller application or brushing PROC 11 -Non industrial spraying ERC 08a -Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC 08d -Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
Processes, tasks and activities covered	Application of product with a roller or brush. Spraying of substances/mixtures. Transfers without dedicated controls, including loading, filling, dumping, bagging.
2. Operational conditions and risk management measures	
Operating Conditions	**Physical state:**Liquid. **General operating conditions:** Assumes use at not more than 20°C above ambient temperature; Duration of use: 8 hours/day; Emission days per year: 365 days/year; Indoors with enhanced general ventilation; **Task: Transferring Material**; Duration of use: 4 hours/day;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** Half-facepiece air-purifying respirator; **Environmental:** Municipal Sewage Treatment Plant;
Waste management measures	Do not apply industrial sludge to natural soils;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	Xylene; EC No. 215-535-7; CAS Nbr 1330-20-7;

Exposure Scenario Name	Professional Use of Coatings
Lifecycle Stage	Widespread use by professional workers
Contributing activities	PROC 08a -Transfer of substance or mixture (charging and discharging) at non-dedicated facilities PROC 10 -Roller application or brushing PROC 11 -Non industrial spraying ERC 08a -Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) ERC 08d -Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor)
Processes, tasks and activities covered	Application of product with a roller or brush. Spraying of substances/mixtures. Transfers without dedicated controls, including loading, filling, dumping, bagging.
2. Operational conditions and risk management measures	
Operating Conditions	**Physical state:**Liquid. **General operating conditions:** Assumes use at not more than 20°C above ambient temperature; Duration of use: 8 hours/day; Emission days per year: 365 days/year; Indoors with enhanced general ventilation; **Task: Transferring Material**; Duration of use: 4 hours/day;
Risk management measures	Under the operational conditions described above the following risk management measures apply: **General risk management measures:** **Human health:** Half-facepiece air-purifying respirator; **Environmental:** Municipal Sewage Treatment Plant;
Waste management measures	Do not apply industrial sludge to natural soils;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

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