

Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the SS586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods.

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SECTION 1: Identification

1.1. Product identifier

3M[™] Polyurethane Adhesive Sealant 550 Fast Cure (Various Colours)

Product Identification Numbers

62-5265-3430-0	62-5265-3435-9	62-5265-3530-7	62-5265-3930-9	62-5265-3936-6
62-5265-5230-2	62-5265-5235-1	62-5265-5236-9	62-5265-5238-5	62-5265-8530-2
62-5265-9530-1	62-5266-3430-8	62-5266-3435-7	62-5266-3530-5	62-5266-3930-7
62-5266-5230-0	62-5266-5235-9	62-5266-9530-9	62-5267-3430-6	62-5267-3435-5
62-5267-3530-3	62-5267-3930-5	62-5267-3936-2	62-5267-5230-8	62-5267-5235-7
62-5267-5238-1	62-5267-8530-8	62-5267-9530-7	DE-2729-2792-7	DE-2729-2937-8
DE-2729-2938-6	DE-2729-2939-4	DE-2729-2940-2	DE-2729-2941-0	DE-2729-2942-8
DE-2729-2943-6	DE-2729-2944-4	DE-2729-2945-1	DE-2729-2946-9	FI-3000-0002-8
FI-3000-0064-8	FI-3000-0065-5	FI-3000-0066-3	FI-3000-0086-1	FI-3000-0087-9
FI-3000-0158-8	FI-3000-0159-6	FI-3000-0160-4	FI-3000-0161-2	FI-3000-0162-0
FI-3000-0163-8	FI-3000-0164-6	FI-3000-0165-3	FI-3000-0166-1	FI-3000-0167-9
FI-3000-0188-5	FI-3000-0302-2	FI-3000-0350-1	FI-3000-0377-4	FI-3000-0380-8
FI-3000-0421-0	FI-3000-0427-7	FI-3000-0428-5	GT-5000-9028-4	GT-5000-9029-2
GT-5000-9030-0	KS-9990-0653-3	KS-9990-0654-1	KS-9990-0655-8	KS-9990-0656-6
KS-9990-0657-4				

1.2. Recommended use and restrictions on use

Recommended use

Fast curing., Sealant.

1.3. Supplier's details

Address:3M Technologies (S) Pte Ltd, 1 Yishun Avenue 7, Singapore 768923Telephone:+65 6450 8888Website:www.3m.com.sg

1.4. Emergency telephone number

+65 6849 3050

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Carcinogenicity: Category 2. Specific Target Organ Toxicity (single exposure): Category 2. Specific Target Organ Toxicity (repeated exposure): Category 2.

2.2. Label elements SIGNAL WORD WARNING!

Symbols Health Hazard |

Pictograms



HAZARD STATEMENT H351	Suspected of causing cancer.
H371	May cause damage to organs: sensory organs
H373	May cause damage to organs through prolonged or repeated exposure: nervous system
PRECAUTIONARY ST	ATEMENTS
Prevention:	
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280E	Wear protective gloves.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt	
Urethane Polymer	Trade Secret	25 - 35	
Poly(Vinyl Chloride) Polymer	9002-86-2	20 - 35	
Plasticizer Mixture	Trade Secret	10 - 30	
Xylene	1330-20-7	< 7	
Calcium Oxide	1305-78-8	1 - 5	
Titanium dioxide	13463-67-7	< 3	
Petroleum Distillate	64742-47-8	< 2	
Ethylbenzene	100-41-4	< 2	
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl)	41556-26-7	<= 0.1	
sebacate			
Carbon black	Trade Secret	< 0.1	

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. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Hydrogen cyanide.	During combustion.
Oxides of nitrogen.	During combustion.
Oxides of sulphur.	During combustion.

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate

authorities. Clean up residue. Dispose of collected material as soon as possible.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

7.2. Conditions for safe storage including any incompatibilities

Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Protect from sunlight. Store away from heat. Store away from amines.

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	ACGIH	TWA:20 ppm	A3: Confirmed animal
				carcin.
Ethylbenzene	100-41-4	CMRG	TWA:25 ppm;STEL:75 ppm	
Ethylbenzene	100-41-4	Singapore PELs	TWA(8 hours):434	
			mg/m3(100 ppm);STEL(15	
			minutes):543 mg/m3(125 ppm)	
Calcium Oxide	1305-78-8	ACGIH	TWA:2 mg/m3	
Calcium Oxide	1305-78-8	Singapore PELs		
Xylene	1330-20-7	ACGIH	TWA:100 ppm;STEL:150 ppm	A4: Not class. as human
				carcin
Xylene	1330-20-7	CMRG	TWA:50 ppm;STEL:75 ppm	
Xylene	1330-20-7	Singapore PELs	TWA(8 hours):434	
			mg/m3(100 ppm);STEL(15	
			minutes):651 mg/m3(150 ppm)	
Titanium dioxide	13463-67-7	ACGIH	TWA:10 mg/m ³	A4: Not class. as human
				carcin
Titanium dioxide	13463-67-7	CMRG	TWA(as respirable dust):5	
			mg/m3	
Titanium dioxide	13463-67-7	Singapore PELs	TWA(8 hours):10 mg/m3	
Bis(1,2,2,6,6-pentamethyl-4-	41556-26-7	CMRG	TWA:1 mg/m3	
piperidinyl) sebacate				
JET FUELS (NON-AEROSOL),	64742-47-8	ACGIH	TWA(as total hydrocarbon	A3: Confirmed animal
AS TOTAL HYDROCARBON			vapor, non-aerosol):200	carcin., Skin Notation
VAPOR			mg/m3	
Kerosine (petroleum)	64742-47-8	ACGIH	TWA(as total hydrocarbon	A3: Confirmed animal
			vapor, non-aerosol):200	carcin., Skin Notation
			mg/m3	
Petroleum Distillate	64742-47-8	CMRG	TWA:165 ppm	
Poly(Vinyl Chloride) Polymer	9002-86-2	ACGIH	TWA(respirable fraction):1	A4: Not class. as human
			mg/m3	carcin
Carbon black	Trade	ACGIH	TWA(inhalable fraction):3	A3: Confirmed animal
	Secret		mg/m3	carcin.

Carbon black	Trade Secret	CMRG	TWA: 0.5 mg/m ³	
Carbon black		Singapore PELs	TWA(8 hours):3.5 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

Singapore PELs : Singapore. Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

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

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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: 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	Solid.
Specific Physical Form:	Paste
Appearance/Odour	Mild xylene odour
Odour threshold	No data available.
рН	Not applicable.
Melting point/Freezing point	No data available.
Boiling point/Initial boiling point/Boiling range	>=137 °C
Flash point	No flash point
Evaporation rate	No data available.
Flammability (solid, gas)	Not classified
Flammable Limits(LEL)	Not applicable.
Flammable Limits(UEL)	Not applicable.
Vapour pressure	Not applicable.
Vapour density	Not applicable.

Density Relative density Water solubility Solubility- non-water Partition coefficient: n-octanol/water Autoignition temperature Decomposition temperature Viscosity VOC less H2O & exempt solvents Solids content 1.2 g/ml
1.2 [*Ref Std*:WATER=1]
Nil
No data available.
>=200 °C
No data available.
>=300 Pa-s [@ 23 °C]
55 g/l [*Test Method*:tested per EPA method 24]
91 - 95.4 % 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 Heat.

10.5 Incompatible materials Amines. Alcohols. Water

10.6 Hazardous decomposition products

<u>Substance</u>

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation

Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause additional health effects (see below).

Condition

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.

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- Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Urethane Polymer	Ingestion	Rat	LD50 > 5,000 mg/kg
Poly(Vinyl Chloride) Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Poly(Vinyl Chloride) Polymer	Ingestion		LD50 estimated to be > 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
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
Calcium Oxide	Ingestion	Rat	LD50 > 2,500 mg/kg
Petroleum Distillate	Dermal	Rabbit	LD50 > 3,160 mg/kg
Petroleum Distillate	Inhalation- Dust/Mist (4 hours)	Rat	LC50 > 3 mg/l
Petroleum Distillate	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
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Ingestion	Rat	LD50 3,125 mg/kg
ATE - conta taminita actimata			

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Poly(Vinyl Chloride) Polymer	Professio	No significant irritation
	nal	
	judgemen	
	t	
Xylene	Rabbit	Mild irritant
Titanium dioxide	Rabbit	No significant irritation
Ethylbenzene	Rabbit	Mild irritant
Calcium Oxide	Human	Corrosive
Petroleum Distillate	Rabbit	Mild irritant
Carbon black	Rabbit	No significant irritation
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	Rabbit	Mild irritant
Xylene	Rabbit	Mild irritant
Titanium dioxide	Rabbit	No significant irritation
Ethylbenzene	Rabbit	Moderate irritant
Calcium Oxide	Rabbit	Corrosive
Petroleum Distillate	Rabbit	Mild irritant
Carbon black	Rabbit	No significant irritation
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
Titanium dioxide	Human	Not sensitizing
	and	
	animal	
Ethylbenzene	Human	Not sensitizing
Petroleum Distillate	Guinea	Not sensitizing
	pig	-
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Guinea	Sensitising
	pig	-

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
Poly(Vinyl Chloride) Polymer	In Vitro	Not mutagenic
Xylene	In Vitro	Not mutagenic
Xylene	In vivo	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
Calcium Oxide	In Vitro	Not mutagenic
Petroleum Distillate	In Vitro	Not mutagenic
Carbon black	In Vitro	Not mutagenic
Carbon black	In vivo	Some positive data exist, but the data are not sufficient for classification

Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Poly(Vinyl Chloride) Polymer	Not	Rat	Some positive data exist, but the data are not
	specified.		sufficient for classification
Xylene	Dermal	Rat	Not carcinogenic
Xylene	Ingestion	Multiple animal	Not carcinogenic
		species	
Xylene	Inhalation	Human	Some positive data exist, but the data are not
			sufficient for classification
Titanium dioxide	Ingestion	Multiple	Not carcinogenic
		animal	
		species	
Titanium dioxide	Inhalation	Rat	Carcinogenic.
Ethylbenzene	Inhalation	Multiple	Carcinogenic.
		animal	
		species	
Petroleum Distillate	Dermal	Mouse	Some positive data exist, but the data are not
			sufficient for classification
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Poly(Vinyl Chloride) Polymer	Not specified.	Not toxic to development	Mouse	NOAEL Not available	during gestation
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
Ethylbenzene	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 4.3 mg/l	premating & 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	8 hours
-					mg/l	
Xylene	Inhalation	central nervous	May cause drowsiness or	Human	NOAEL Not	
		system depression	dizziness		available	
Xylene	Inhalation	respiratory irritation	Some positive data exist, but the	Human	NOAEL Not	
-			data are not sufficient for		available	
			classification			
Xylene	Inhalation	eyes	Some positive data exist, but the	Rat	NOAEL 3.5	not available
			data are not sufficient for		mg/l	

			classification			
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
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	
Ethylbenzene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professio nal judgeme nt	NOAEL Not available	
Calcium Oxide	Inhalation	respiratory irritation	May cause respiratory irritation	Not available	NOAEL Not available	occupational exposure
Petroleum Distillate	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Petroleum Distillate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Poly(Vinyl Chloride) Polymer	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	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	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
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the	Rat	LOAEL 0.01	2 years

			data are not sufficient for classification		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

Aspiration Hazard

Name	Value
Xylene	Aspiration hazard
Ethylbenzene	Aspiration hazard
Petroleum Distillate	Aspiration hazard

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

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

12.1. Toxicity

Acute aquatic hazard: GHS Acute 3: Harmful to aquatic life.

Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Nbr	Organism	Туре	Exposure	Test endpoint	Test result
Plasticizer	Trade Secret	Fathead	**Experimenta		LC50	>100 mg/l

Mixture		minnow	1**			
Bis(1,2,2,6,6- pentamethyl-4- piperidinyl) sebacate	41556-26-7	Fathead minnow	Estimated	96 hours	LC50	0.36 mg/l
Ethylbenzene	100-41-4	Green Algae	**Experimenta l**	96 hours	EC50	3.6 mg/l
Ethylbenzene	100-41-4	Rainbow trout	**Experimenta l**	96 hours	LC50	4.2 mg/l
Ethylbenzene	100-41-4	Water flea	**Experimenta l**	24 hours	EC50	1.81 mg/l
Titanium dioxide	13463-67-7	Water flea	**Experimenta l**	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Sheepshead Minnow	**Experimenta 1**	96 hours	LC50	>240 mg/l
Titanium dioxide	13463-67-7	Fish	**Experimenta l**	30 days	NOEC	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	**Experimenta l**	30 days	NOEC	3 mg/l
Calcium Oxide	1305-78-8		Data not available or insufficient for classification			
Carbon black	Trade Secret		Data not available or insufficient for classification			
Urethane Polymer	Trade Secret		Data not available or insufficient for classification			
Petroleum Distillate	64742-47-8		Data not available or insufficient for classification			
Poly(Vinyl Chloride) Polymer	9002-86-2		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
Ethylbenzene	100-41-4	**Experimenta		Photolytic half-	4.26 days (t	Other methods
		1** Photolysis		life (in air)	1/2)	
Urethane	Trade Secret	Data not	N/A	N/A	N/A	N/A
Polymer		available or				
		insufficient for				
		classification				
Poly(Vinyl	9002-86-2	Data not	N/A	N/A	N/A	N/A
Chloride)		available or				

Polymer		insufficient for classification				
Carbon black	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
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	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
Petroleum Distillate	64742-47-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Plasticizer Mixture	Trade Secret	Estimated Biodegradation	28 days	CO2 evolution	93 % weight	OECD 301B - Modified sturm or CO2
Bis(1,2,2,6,6- pentamethyl-4- piperidinyl) sebacate	41556-26-7	Estimated Biodegradation	28 days	BOD	32.8 % weight	OECD 301C - MITI test (I)
Ethylbenzene	100-41-4	Laboratory Biodegradation	14 days	BOD	81 % weight	Other methods

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Carbon black	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Petroleum Distillate	64742-47-8	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
Urethane Polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Plasticizer Mixture	Trade Secret	Estimated BCF - Fathead Mi		Bioaccumulatio n factor	900	Other methods
Poly(Vinyl Chloride) Polymer	9002-86-2	Data not available or insufficient for	N/A	N/A	N/A	N/A

		classification				
Bis(1,2,2,6,6-	41556-26-7	Estimated		Bioaccumulatio	5.96	Estimated:
pentamethyl-4-		Bioconcentrati		n factor		Bioconcentration factor
piperidinyl)		on				
sebacate						
Calcium Oxide	1305-78-8	Data not	N/A	N/A	N/A	N/A
		available or				
		insufficient for				
		classification				
Titanium	13463-67-7	**Experimenta	42 days	Bioaccumulatio	9.6	Other methods
dioxide		l** BCF-Carp		n factor		
Ethylbenzene	100-41-4	**Experimenta		Bioaccumulatio	15	Other methods
-		1** BCF -		n factor		
		Other				

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Disposal methods

See Section 11.1 Information on toxicological effects

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

International Regulations

UN No.: Not applicable UN Proper shipping name: Not applicable Transportation Class (IMO): Not applicable Transportation Class (IATA): Not applicable Packing Group: Not applicable Marine pollutant: Not applicable

SECTION 15: Regulatory information

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

Global inventory status

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

This product may contain component(s) that are regulated by the following:

Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations: this product is subject to SDS, labelling, PEL and other requirements in the Act/Regulations.

Fire Safety (Petroleum And Flammable Materials) Regulations: this product is subject to import, transport and storage requirements in the Regulation.

Sewerage & Drainage Act and Sewerage and Drainage (Trade Effluent) Regulations: This product is subject to the requirements in the act/regulation.

Environmental Pollution Control (Hazardous Substances) Regulations: This product is subject to the requirements of this Regulation.

SECTION 16: Other information

Revision information:

Section 1: Product identification numbers information was modified. Section 1: Product use information information was deleted.

US Section 01 Product Use - Recommended Use information was added.

Section 2: SG GHS Classification information was modified.

Section 2: SG Hazard - Health information was modified.

Section 2: SG Pictogram information was modified.

Section 2: SG Precautionary - Disposal information was deleted.

Section 2: SG Precautionary - Prevention information was modified.

Section 2: SG Precautionary - Response information was deleted.

Section 2: SG Precautionary - Storage information was deleted.

Section 2: SG Symbol Text information was modified.

Section 2: Ingredient table information was modified.

Section 5: Fire - Advice for fire fighters information information was modified.

Section 6: Accidental release clean-up information information was modified.

Section 6: Accidental release personal information information was modified.

Section 7: Conditions safe storage information was modified.

Section 7: Precautions safe handling information information was modified.

Section 8: Eye protection information information was added.

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

Section 8: Occupational exposure limit table information was added.

Section 8: Occupational exposure limit table information was modified.

OEL Reg Agency Desc information was modified.

Section 8: Personal Protection - Eye information information was deleted.

Section 8: Personal Protection - Skin/body information information was deleted.

Section 8: Personal Protection - Skin/hand information information was modified.

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

Section 9: All Properties information was modified.

Section 9: Property description for optional properties information was modified.

Section 11: Acute Toxicity table information was modified.

Section 11: Aspiration Hazard Table information was modified.

Section 11: Carcinogenicity Table information was modified.

Section 11: Disclosed components not in tables text information was added.

Section 11: Germ Cell Mutagenicity Table information was modified.

Section 11: Health Effects - Additional Information information was deleted.

Section 11: Health Effects - Eye information information was modified.

Section 11: Health Effects - Ingestion information information was modified.

Section 11: Health Effects - Inhalation information information was modified.

Section 11: Health Effects - Skin information information was modified.

Lactation Table information was added.

Section 11: Reproductive and/or Developmental Effects text information was added.

Section 11: Reproductive Toxicity Table information was modified.

Section 11: Respiratory Sensitization Table information was deleted.

Section 11: Respiratory Sensitization text information was added.

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: Acute aquatic hazard 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.

Section 13: Standard Phrase Category Waste GHS information was modified.

Section 15: Regulations - Inventories information was modified.

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 Singapore SDSs are available at www.3m.com.sg