Safety Data Sheet

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,10 Ang Mo Kio Street 65, Singapore 569059
Telephone: +65 6450 8888
Website: www.3m.com.sg

1.4. Emergency telephone number

+65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

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 STATEMENTS

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 STATEMENTS
Prevention:

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280E	Wear protective gloves.

2.3. Other hazards
Persons previously sensitised to isocyanates may develop a cross-sensitisation reaction to other isocyanates. A similar mixture has been tested for eye damage/irritation and the test results do not meet the criteria for classification.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Poly(Vinyl Chloride)	9002-86-2	20 - 35
Urethane Polymer (NJTS Reg. No 04499600-6719)	Trade Secret	25 - 35
Plasticizer	70775-94-9	10 - 30
Xylene	1330-20-7	< 6
Calcium Oxide	1305-78-8	< 5
Titanium dioxide	13463-67-7	< 3
Petroleum Distillate	64742-47-8	< 2
Ethylbenzene	100-41-4	< 2
p,p'-Methylenebis(Phenyl Isocynate)	101-68-8	< 1
Carbon black	1333-86-4	< 0.3

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

Allergic respiratory reaction (difficulty breathing, wheezing, cough, and tightness of chest). Allergic skin reaction (redness, swelling, blistering, and itching). Target organ effects. See Section 11 for additional details. Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

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

SECTION 5: Fire-fighting measures

5.1. 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

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. Special protective actions 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. 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 container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. Clean up residue. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

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., Ototoxicant
Ethylbenzene	100-41-4	Singapore PELs	TWA(8 hours):434 mg/m3(100 ppm);STEL(15 minutes):543 mg/m3(125 ppm)	
p,p'-Methylenebis(Phenyl Isocynate)	101-68-8	ACGIH	TWA:0.005 ppm	
p,p'-Methylenebis(Phenyl Isocynate)	101-68-8	Singapore PELs	TWA(8 hours):0.051 mg/m3(0.005 ppm)	
Calcium Oxide	1305-78-8	ACGIH	TWA:2 mg/m3	
Calcium Oxide	1305-78-8	Singapore PELs	TWA(8 hours):2 mg/m3	
Xylene	1330-20-7	ACGIH	TWA:20 ppm	A4: Not class. as human carcin
Xylene	1330-20-7	Singapore PELs	TWA(8 hours):434 mg/m3(100 ppm);STEL(15 minutes):651 mg/m3(150 ppm)	
Carbon black	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m3	A3: Confirmed animal carcin.
Carbon black	1333-86-4	Singapore PELs	TWA(8 hours):3.5 mg/m3	
Titanium dioxide	13463-67-7	ACGIH	TWA(Respirable nanoscale particles):0.2 mg/m3;TWA(Respirable finescale particles):2.5 mg/m3	A3: Confirmed animal carcin.
Titanium dioxide	13463-67-7	Singapore PELs	TWA(8 hours):10 mg/m3	
Kerosine (petroleum)	64742-47-8	ACGIH	TWA(as total hydrocarbon vapor, non-aerosol):200 mg/m3	A3: Confirmed animal carcin., SKIN
DUST, INERT OR NUISANCE	9002-86-2	Singapore PELs	TWA(as particulate)(8 hours):10 mg/m3	
Poly(Vinyl Chloride)	9002-86-2	ACGIH	TWA(respirable fraction):1	A4: Not class. as human

			mg/m3	carcin

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

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Safety glasses with side shields.

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: Fluoroelastomer
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
Color	Multicolor
Odor	Mild Xylene
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*No data available.*
Boiling point/Initial boiling point/Boiling range	>=137 ºC
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.*
Vapor Density and/or Relative Vapor Density	*Not applicable.*
Density	1.2 g/ml
Relative density	1.2 [*Ref Std:*WATER=1]
Water solubility	Nil
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	>=200 ºC
Decomposition temperature	*No data available.*
Viscosity/Kinematic Viscosity	>=300,000 mPa-s [@ 23 ºC]
VOC less H2O & exempt solvents	55 g/l [*Test Method:*tested per EPA method 24]
Molecular weight	*No data available.*
Solids content	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

Substance	**Condition**
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. Allergic respiratory reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. May cause additional health effects (see below).

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

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

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

Additional Health Effects:

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

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

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

Additional information:
Persons previously sensitised to isocyanates may develop a cross-sensitisation reaction to other isocyanates.

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
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-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

Calcium Oxide	Ingestion	Rat	LD50 > 2,500 mg/kg
Calcium Oxide	Dermal	similar compounds	LD50 > 2,500 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
Petroleum Distillate	Ingestion	Rat	LD50 > 15,000 mg/kg
Petroleum Distillate	Dermal	similar compounds	LD50 > 5,000 mg/kg
p,p'-Methylenebis(Phenyl Isocynate)	Dermal	Rabbit	LD50 > 5,000 mg/kg
p,p'-Methylenebis(Phenyl Isocynate)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
p,p'-Methylenebis(Phenyl Isocynate)	Ingestion	Rat	LD50 31,600 mg/kg
Carbon black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon black	Ingestion	Rat	LD50 > 8,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Poly(Vinyl Chloride)	Professional judgement	No significant irritation
Xylene	Rabbit	Mild irritant
Titanium dioxide	Rabbit	No significant irritation
Calcium Oxide	Human	Corrosive
Ethylbenzene	Rabbit	Mild irritant
Petroleum Distillate	similar compounds	Mild irritant
p,p'-Methylenebis(Phenyl Isocynate)	official classification	Irritant
Carbon black	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
Calcium Oxide	Rabbit	Corrosive
Ethylbenzene	Rabbit	Moderate irritant
Petroleum Distillate	similar compounds	No significant irritation
p,p'-Methylenebis(Phenyl Isocynate)	official classification	Severe irritant
Carbon black	Rabbit	No significant irritation

Sensitization:

Skin Sensitisation

Name	Species	Value
Titanium dioxide	Human and	Not classified

	animal	
Ethylbenzene	Human	Not classified
Petroleum Distillate	similar compoun ds	Not classified
p,p'-Methylenebis(Phenyl Isocynate)	official classificat ion	Sensitising

Respiratory Sensitisation

Name	Species	Value
p,p'-Methylenebis(Phenyl Isocynate)	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
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
Calcium Oxide	In Vitro	Not mutagenic
Ethylbenzene	In vivo	Not mutagenic
Ethylbenzene	In Vitro	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillate	In Vitro	Not mutagenic
p,p'-Methylenebis(Phenyl Isocynate)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Carbon black	In Vitro	Not mutagenic
Carbon black	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
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
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.
Ethylbenzene	Inhalation	Multiple animal species	Carcinogenic.
p,p'-Methylenebis(Phenyl Isocynate)	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
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
Ethylbenzene	Inhalation	Not classified for development	Rat	NOAEL 4.3 mg/l	premating & during gestation
p,p'-Methylenebis(Phenyl Isocynate)	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
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	
Petroleum Distillate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
p,p'-Methylenebis(Phenyl Isocynate)	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
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
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
Petroleum Distillate	Inhalation	liver	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Petroleum Distillate	Inhalation	kidney and/or bladder	Not classified	Rat	LOAEL 1.5 mg/l	13 weeks
Petroleum Distillate	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Petroleum Distillate	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Petroleum Distillate	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 100 mg/kg/day	13 weeks
Petroleum Distillate	Ingestion	hematopoietic system | eyes	Not classified	Rat	NOAEL 1,000	13 weeks

					mg/kg/day	
p,p'-Methylenebis(Phenyl Isocynate)	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
Carbon black	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

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	Type	Exposure	Test endpoint	Test result
Poly(Vinyl Chloride)	9002-86-2	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Urethane Polymer (NJTS Reg. No 04499600-6719)	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	NA
Plasticizer	70775-94-9	Medaka	Experimental	96 hours	LC50	>100 mg/l
Plasticizer	70775-94-9	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Plasticizer	70775-94-9	Green algae	Experimental	72 hours	EC10	>=2 mg/l
Xylene	1330-20-7	Activated sludge	Estimated	3 hours	NOEC	157 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	NOEC	0.44 mg/l
Xylene	1330-20-7	Rainbow trout	Estimated	56 days	NOEC	>1.3 mg/l
Xylene	1330-20-7	Water flea	Estimated	7 days	NOEC	0.96 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	No tox obs at lmt of water sol	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
Ethylbenzene	100-41-4	Green algae	Estimated	73 hours	EC50	4.36 mg/l
Ethylbenzene	100-41-4	Rainbow trout	Estimated	96 hours	LC50	2.6 mg/l
Ethylbenzene	100-41-4	Water flea	Estimated	48 hours	EC50	3.82 mg/l

Ethylbenzene	100-41-4	Activated sludge	Experimental	49 hours	EC50	130 mg/l
Ethylbenzene	100-41-4	Green algae	Estimated	73 hours	NOEC	0.44 mg/l
Ethylbenzene	100-41-4	Rainbow trout	Estimated	56 days	NOEC	>1.3 mg/l
Ethylbenzene	100-41-4	Water flea	Estimated	7 days	NOEC	0.96 mg/l
Petroleum Distillate	64742-47-8	Green algae	Experimental	72 hours	EL50	>1,000 mg/l
Petroleum Distillate	64742-47-8	Rainbow trout	Experimental	96 hours	LL50	>1,000 mg/l
Petroleum Distillate	64742-47-8	Water flea	Experimental	48 hours	EL50	>1,000 mg/l
Petroleum Distillate	64742-47-8	Green algae	Experimental	72 hours	NOEL	1,000 mg/l
p,p'-Methylenebis(Phenyl Isocynate)	101-68-8	Activated sludge	Estimated	3 hours	EC50	>100 mg/l
p,p'-Methylenebis(Phenyl Isocynate)	101-68-8	Green algae	Estimated	72 hours	EC50	>1,640 mg/l
p,p'-Methylenebis(Phenyl Isocynate)	101-68-8	Water flea	Estimated	24 hours	EC50	>1,000 mg/l
p,p'-Methylenebis(Phenyl Isocynate)	101-68-8	Zebra Fish	Estimated	96 hours	LC50	>1,000 mg/l
p,p'-Methylenebis(Phenyl Isocynate)	101-68-8	Green algae	Estimated	72 hours	NOEC	1,640 mg/l
p,p'-Methylenebis(Phenyl Isocynate)	101-68-8	Water flea	Estimated	21 days	NOEC	10 mg/l
Carbon black	1333-86-4	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Carbon black	1333-86-4	Zebra Fish	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Carbon black	1333-86-4	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	100 mg/l
Carbon black	1333-86-4	Activated sludge	Experimental	3 hours	NOEC	>800 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Poly(Vinyl Chloride)	9002-86-2	Data not available-insufficient	N/A	N/A	N/A	N/A
Urethane Polymer (NJTS Reg. No 04499600-6719)	Trade Secret	Data not available-insufficient	N/A	N/A	N/A	N/A
Plasticizer	70775-94-9	Estimated Biodegradation	28 days	BOD	51 %BOD/ThOD	
Xylene	1330-20-7	Experimental Biodegradation	28 days	BOD	90-98 %BOD/ThOD	OECD 301F - Manometric respirometry
Calcium Oxide	1305-78-8	Data not available-insufficient	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Data not available-insufficient	N/A	N/A	N/A	N/A
Ethylbenzene	100-41-4	Estimated Biodegradation	28 days	BOD	90-98 %BOD/ThOD	OECD 301F - Manometric respirometry
Petroleum Distillate	64742-47-8	Estimated Biodegradation	28 days	BOD	69 %BOD/ThOD	OECD 301F - Manometric respirometry
p,p'-Methylenebis(Phen	101-68-8	Estimated Hydrolysis		Hydrolytic half-life	20 hours (t 1/2)	

yl Isocynate)						
Carbon black	1333-86-4	Data not available-insufficient	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Poly(Vinyl Chloride)	9002-86-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Urethane Polymer (NJTS Reg. No 04499600-6719)	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Plasticizer	70775-94-9	Experimental BCF - Fish	36 days	Bioaccumulation factor	56-212	
Xylene	1330-20-7	Experimental BCF - Fish	56 days	Bioaccumulation factor	25.9	
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 - Fish	42 days	Bioaccumulation factor	9.6	
Ethylbenzene	100-41-4	Experimental BCF - Fish	56 days	Bioaccumulation factor	25.9	
Petroleum Distillate	64742-47-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
p,p'-Methylenebis(Phenyl Isocynate)	101-68-8	Experimental BCF - Fish	28 days	Bioaccumulation factor	200	OECD305-Bioconcentration
Carbon black	1333-86-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil
Please contact manufacturer for more details

12.5 Other adverse effects
No information available.

SECTION 13: Disposal considerations

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

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. 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.

SECTION 14: Transport Information

International Regulations

UN No.: Not restricted for transport.
UN Proper shipping name: Not restricted for transport.

Transportation Class (IMO): None assigned
Transportation Class (IATA): None assigned
Other Dangerous Goods Descriptions (IMO): None assigned
Other Dangerous Goods Descriptions (IATA): None assigned
Packing Group: None assigned
Marine pollutant: None assigned

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 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. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

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

SECTION 16: Other information

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