

Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Malaysia Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

SECTION 1: Identification

1.1. Product identifier

3MTM Polyurethane Adhesive Sealant 560, White, Gray, Black

Product Identification Numbers

62-5487-3430-0	62-5487-3435-9	62-5487-3535-6	62-5487-3935-8	62-5487-3937-4
62-5487-8531-0	62-5487-8536-9	62-5488-3430-8	62-5488-3435-7	62-5488-3930-7
62-5495-3430-3	62-5495-3435-2	62-5495-3930-2	62-5495-5238-8	DE-2729-2774-5
DE-2729-2775-2	DE-2729-2778-6	DE-2729-2779-4	DE-2729-2782-8	DE-2729-2783-6
DE-2729-2786-9	DE-2729-2787-7	DS-2729-9110-2	DS-2729-9111-0	FI-3000-0085-3
FI-3000-0089-5	FI-3000-0091-1	FI-3000-0147-1	FI-3000-0168-7	FI-3000-0169-5
FI-3000-0170-3	FI-3000-0171-1	FI-3000-0172-9	GT-5000-9019-3	GT-5000-9020-1
GT-5000-9021-9	GT-5000-9022-7	HB-0040-9061-7	HB-0040-9123-5	HB-0040-9993-1
HB-0040-9994-9	HB-0040-9995-6	HB-0040-9996-4	HB-0040-9997-2	HB-0040-9998-0
HB-0040-9999-8	HB-0041-0127-3	HB-0041-5633-5	HB-0041-5634-3	HB-0041-5635-0
HB-0041-5743-2	HB-0041-5744-0	HB-0041-5747-3	HB-0041-5748-1	HB-0041-5749-9
HB-0041-6485-9	KS-9990-0658-2	KS-9990-0659-0	KS-9990-0660-8	KS-9990-0661-6
KS-9990-0662-4	XA-0092-0992-6			

1.2. Recommended use and restrictions on use

Recommended use

One component, moisture curing product which forms permanent elastic bonds., Sealant

For Industrial or Professional use only

1.3. Supplier's details

ADDRESS: 3M Malaysia Sdn. Bhd., Level 8, Block F, Oasis Square, No.2, Jalan PJU 1A/7A, Ara Damansara 47301

Petaling, Jaya, Selangor

Telephone: 03-7884 2888

E Mail: 3mmyehsr@mmm.com Website: www.3M.com.my

1.4. Emergency telephone number

+60 03-7884 2888

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

General:

P102 Keep out of reach of children.

P101 If medical advice is needed, have product container or label at hand.

Prevention:

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P280E Wear protective gloves.

P281 Use personal protective equipment as required.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/container in accordance with applicable

local/regional/national/international regulations.

2.3. Other hazards

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

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
Urethane Polymer	Trade Secret	30 - 40

Plasticizer	Trade Secret	10 - 35
Poly (Vinyl Chloride) Polymer	9002-86-2	20 - 30
Amorphous Silica	67762-90-7	1 - 5
Xylene	1330-20-7	< 4
Titanium Dioxide	13463-67-7	< 3
Calcium Oxide	1305-78-8	< 3
Petroleum Distillates	64742-47-8	< 2
Ethylbenzene	100-41-4	< 2
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	<= 0.3
Carbon Black	1333-86-4	< 0.3
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl)	41556-26-7	0.01 - 0.1
sebacate		

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

Condition
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. 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.

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. Seal the container. 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

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/vapors/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 (gloves, respirators, etc.) 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.

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	C.A.S. No.	Agency	Limit type	Additional Comments
Ethylbenzene	100-41-4	ACGIH	TWA:20 ppm	A3: Confirmed animal
				carcin.
Ethylbenzene	100-41-4	Malaysia OELs	TWA(8 hours):434	
			mg/m3(100 ppm)	
P,P'-Methylenebis(phenyl	101-68-8	ACGIH	TWA:0.005 ppm	
isocyanate)				
P,P'-Methylenebis(phenyl	101-68-8	Malaysia OELs	TWA(8 hours):0.051	
isocyanate)			mg/m3(0.005 ppm)	
Calcium Oxide	1305-78-8	ACGIH	TWA:2 mg/m3	
Calcium Oxide	1305-78-8	Malaysia OELs	TWA(8 hours):2 mg/m3	
Xylene	1330-20-7	ACGIH	TWA:100 ppm;STEL:150 ppm	A4: Not class. as human
				carcin

Xylene	1330-20-7	Malaysia OELs	TWA(8 hours):434	
			mg/m3(100 ppm)	
Carbon Black	1333-86-4	ACGIH	TWA(inhalable fraction):3	A3: Confirmed animal
			mg/m3	carcin.
Carbon Black	1333-86-4	Malaysia OELs	TWA(8 hours):3.5 mg/m3	
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m3	A4: Not class. as human
				carcin
Titanium Dioxide	13463-67-7	Malaysia OELs	TWA(8 hours):10 mg/m3	
Kerosine (petroleum)	64742-47-8	ACGIH	TWA(as total hydrocarbon	A3: Confirmed animal
			vapor, non-aerosol):200	carcin., SKIN
			mg/m3	
DUST, INERT OR NUISANCE	9002-86-2	Malaysia OELs	TWA (proposed)(Inhalable	
			particulate)(8 hours):10	
			mg/m3;TWA	
			(proposed)(respirable	
			particles)(8 hours):3 mg/m3	
Poly (Vinyl Chloride) Polymer	9002-86-2	ACGIH	TWA(respirable fraction):1	A4: Not class. as human
			mg/m3	carcin

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer's Recommended Guidelines

Malaysia OELs: Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations

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/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eve/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

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors 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 stateSolidSpecific Physical Form:Paste

ColorMulticolorOdorMild XyleneOdor thresholdNo Data AvailablepHNot ApplicableMelting point/Freezing pointNo Data Available

Boiling point/Initial boiling point/Boiling range >=137 °C No flash point **Flash Point Evaporation rate** No Data Available Flammability (solid, gas) Not Classified Flammable Limits(LEL) Not Applicable Flammable Limits(UEL) Not Applicable Vapor Pressure Not Applicable **Vapor Density** Not Applicable **Density** 1.17 g/ml

Relative Density 1.17 [*Ref Std*:WATER=1]

Water solubility Nil

Solubility- non-waterNo Data AvailablePartition coefficient: n-octanol/ waterNo Data Available

Autoignition temperature >=200 °C

Decomposition temperature No Data Available

Viscosity >=300,000 mPa-s [@ 23 °C]

Molecular weight No Data Available

VOC Less H2O & Exempt Solvents 56 g/l [Test Method:tested per EPA method 24]

Solids Content > 95 % 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 polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Amines Alcohols Water

10.6. Hazardous decomposition products

<u>Substance</u> <u>Condition</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 labeling, 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.

Eve 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 diarrhea.

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/or changes in blood pressure and heart rate.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Additional Information:

Persons previously sensitized to isocyanates may develop a cross-sensitization 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) Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Poly (Vinyl Chloride) Polymer	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
Amorphous Silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Amorphous Silica	Inhalation- Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Amorphous Silica	Ingestion	Rat	LD50 > 5,110 mg/kg
Petroleum Distillates	Dermal	Rabbit	LD50 > 3,160 mg/kg
Petroleum Distillates	Inhalation- Dust/Mist (4 hours)	Rat	LC50 > 3 mg/l
Petroleum Distillates	Ingestion	Rat	LD50 > 5,000 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
P,P'-Methylenebis(phenyl isocyanate)	Dermal	Rabbit	LD50 > 5,000 mg/kg
P,P'-Methylenebis(phenyl isocyanate)	Inhalation- Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
P,P'-Methylenebis(phenyl isocyanate)	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
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Ingestion	Rat	LD50 3,125 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
	Species	,
Poly (Vinyl Chloride) Polymer	Professio	No significant irritation
	nal	
	judgemen	
	t	
Xylene	Rabbit	Mild irritant
Titanium Dioxide	Rabbit	No significant irritation
Calcium Oxide	Human	Corrosive
Amorphous Silica	Rabbit	No significant irritation
Petroleum Distillates	Rabbit	Mild irritant
Ethylbenzene	Rabbit	Mild irritant

P,P'-Methylenebis(phenyl isocyanate)	official	Irritant
	classificat	
	ion	
Carbon Black	Rabbit	No significant irritation
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate		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
Amorphous Silica	Rabbit	No significant irritation
Petroleum Distillates	Rabbit	Mild irritant
Ethylbenzene	Rabbit	Moderate irritant
P,P'-Methylenebis(phenyl isocyanate)	official	Severe irritant
	classificat	
	ion	
Carbon Black	Rabbit	No significant irritation
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
Titanium Dioxide	Human	Not classified
	and	
	animal	
Amorphous Silica	Human	Not classified
	and	
	animal	
Petroleum Distillates	Guinea	Not classified
	pig	
Ethylbenzene	Human	Not classified
P,P'-Methylenebis(phenyl isocyanate)	official	Sensitizing
	classificat	
	ion	
Bis(1,2,2,6,6-pentamethyl-4-piperidinyl) sebacate	Guinea	Sensitizing
	pig	

Respiratory Sensitization

Na	ame	Species	Value
P.1	P'-Methylenebis(phenyl isocyanate)	Human	Sensitizing

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
Calcium Oxide	In Vitro	Not mutagenic
Amorphous Silica	In Vitro	Not mutagenic
Petroleum Distillates	In Vitro	Not mutagenic
Ethylbenzene	In vivo	Not mutagenic
Ethylbenzene	In Vitro	Some positive data exist, but the data are not
		sufficient for classification
P,P'-Methylenebis(phenyl isocyanate)	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

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

Carcinogenicity

Name	Route	Species	Value
Poly (Vinyl Chloride) Polymer	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
Amorphous Silica	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
Petroleum Distillates	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Ethylbenzene	Inhalation	Multiple animal species	Carcinogenic
P,P'-Methylenebis(phenyl isocyanate)	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) Polymer	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
Amorphous Silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Amorphous Silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Amorphous Silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Ethylbenzene	Inhalation	Not classified for development	Rat	NOAEL 4.3 mg/l	premating & during gestation
P,P'-Methylenebis(phenyl isocyanate)	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

3M™ Polyurethane Adhesive Sealant 560, White, Gray, Black

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
Petroleum Distillates	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Petroleum Distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Petroleum Distillates	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professio nal judgeme nt	NOAEL Notavailable	
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	
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	respiratory irritation	May cause respiratory irritation	official classifica tion	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	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	2 weeks

					mg/kg/day	
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
Amorphous Silica	Inhalation	respiratory system silicosis	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
P,P'-Methylenebis(phenyl isocyanate)	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					
Petroleum Distillates	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 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 labeling, 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 #	Organism	Type	Exposure	Test Endpoint	Test Result
Urethane Polymer	Trade Secret		Data not available or insufficient for classification			
Plasticizer	Trade Secret	Zebra Fish	Estimated	96 hours	Lethal Concentration 50%	>100 mg/l
Plasticizer	Trade Secret	Water flea	Estimated	48 hours	Effect Concentration 50%	>100 mg/l
Plasticizer	Trade Secret	Green algae	Estimated	72 hours	Effect Concentraion 0%	>100 mg/l
Poly (Vinyl Chloride) Polymer	9002-86-2		Data not available or insufficient for classification			
Amorphous Silica	67762-90-7		Data not available or insufficient for classification			
Xylene	1330-20-7	Rainbow Trout	Estimated	96 hours	Lethal Concentration 50%	2.6 mg/l
Xylene	1330-20-7	Green Algae	Estimated	72 hours	Effect Concentration 50%	4.36 mg/l
Xylene	1330-20-7	Water flea	Estimated	24 hours	Inhibitory Concentration 50%	1 mg/l
Xylene	1330-20-7	Rainbow Trout	Experimental	56 days	No obs Effect Conc	>1.3 mg/l
Xylene	1330-20-7	Green Algae	Estimated	72 hours	No obs Effect Conc	0.44 mg/l
Xylene	1330-20-7	Water flea	Estimated	7 days	No obs Effect Conc	0.96 mg/l
Titanium Dioxide	13463-67-7	Fathead Minnow	Experimental	96 hours	Lethal Concentration 50%	>100 mg/l
Titanium Dioxide	13463-67-7	Water flea	Experimental	48 hours	Effect Concentration	>100 mg/l

					50%	
Titanium Dioxide	13463-67-7	Diatom	Experimental	72 hours	Effect Concentration 50%	>10,000 mg/l
Titanium Dioxide	13463-67-7	Diatom	Experimental	72 hours	No obs Effect Conc	5,600 mg/l
Calcium Oxide	1305-78-8	Common Carp	Experimental	96 hours	Lethal Concentration 50%	1,070 mg/l
Petroleum Distillates	64742-47-8	Green Algae	Estimated	72 hours	Effect Concentration 50%	1 mg/l
Petroleum Distillates	64742-47-8	Rainbow Trout	Estimated	96 hours	Lethal Level 50%	2 mg/l
Petroleum Distillates	64742-47-8	Water flea	Estimated	48 hours	Effect Level 50%	1.4 mg/l
Petroleum Distillates	64742-47-8	Green Algae	Estimated	72 hours	No obs Effect Level	1 mg/l
Petroleum Distillates	64742-47-8	Water flea	Estimated	21 days	No obs Effect Level	0.48 mg/l
Ethylbenzene	100-41-4	Water flea	Experimental	48 hours	Effect Concentration 50%	1.8 mg/l
Ethylbenzene	100-41-4	Mysid Shrimp	Experimental	96 hours	Lethal Concentration 50%	2.6 mg/l
Ethylbenzene	100-41-4	Rainbow Trout	Experimental	96 hours	Lethal Concentration 50%	4.2 mg/l
Ethylbenzene	100-41-4	Atlantic Silverside	Experimental	96 hours	Lethal Concentration 50%	5.1 mg/l
Ethylbenzene	100-41-4	Green Algae	Experimental	96 hours	Effect Concentration 50%	3.6 mg/l
Ethylbenzene	100-41-4	Water flea	Experimental	7 days	No obs Effect Conc	0.96 mg/l
P,P'- Methylenebis(p henyl isocyanate)	101-68-8	Green algae	Estimated	72 hours	Effect Concentration 50%	>1,640 mg/l
P,P'- Methylenebis(p henyl isocyanate)	101-68-8	Zebra Fish	Estimated	96 hours	Lethal Concentration 50%	>1,000 mg/l
P,P'- Methylenebis(p henyl isocyanate)	101-68-8	Water flea	Estimated	24 hours	Effect Concentration 50%	>1,000 mg/l
P,P'- Methylenebis(p henyl isocyanate)	101-68-8	Water flea	Estimated	21 days	No obs Effect Conc	10 mg/l
P,P'-	101-68-8	Green algae	Estimated	72 hours	No obs Effect	1,640 mg/l

Methylenebis(p henyl isocyanate)				Conc	
	1333-86-4		Data not available or insufficient for classification		
Bis(1,2,2,6,6- pentamethyl-4- piperidinyl) sebacate	41556-26-7	Fathead Minnow	Estimated	Lethal Concentration 50%	0.27 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Urethane	Trade Secret	Data not			N/A	
Polymer		availbl-				
		insufficient				
Plasticizer	Trade Secret	Experimental	28 days	Biological	49 % weight	
		Biodegradation	-	Oxygen		
				Demand		
Poly (Vinyl	9002-86-2	Data not			N/A	
Chloride)		availbl-				
Polymer		insufficient				
Amorphous	67762-90-7	Data not			N/A	
Silica		availbl-				
		insufficient				
Xylene	1330-20-7	Experimental		Photolytic half-	1.4 days (t 1/2)	Other methods
j		Photolysis		life (in air)		
Xylene	1330-20-7	Experimental	28 days	Biological	90-98 %	OECD 301F -
,		Biodegradation	,	Oxygen	BOD/ThBOD	Manometric Respiro
				Demand		1
Titanium	13463-67-7	Data not			N/A	
Dioxide		availbl-				
		insufficient				
Calcium Oxide	1305-78-8	Data not			N/A	
		availbl-				
		insufficient				
Petroleum	64742-47-8	Data not			N/A	
Distillates		availbl-				
		insufficient				
Ethylbenzene	100-41-4	Experimental		Photolytic half-	4.26 days (t	Other methods
j		Photolysis		life (in air)	1/2)	
Ethylbenzene	100-41-4	Experimental	28 days	Carbon dioxide	70-80 %	Other methods
		Biodegradation		evolution	weight	
P,P'-	101-68-8	Estimated		Hydrolytic	20 hours (t 1/2)	Other methods
Methylenebis(p		Hydrolysis		half-life		
henyl						
isocyanate)						
Carbon Black	1333-86-4	Data not			N/A	
		availbl-				
		insufficient				
Bis(1,2,2,6,6-	41556-26-7	Estimated	28 days	Biological	27 % weight	OECD 301F -
pentamethyl-4-		Biodegradation]	Oxygen		Manometric Respiro
piperidinyl)	l		1	Demand	I	1

sebacate			

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
Plasticizer	Trade Secret	Experimental BCF-Carp	36 days	Bioaccumulatio n Factor	212	
Poly (Vinyl Chloride) Polymer	9002-86-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Amorphous Silica	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Xylene	1330-20-7	Experimental BCF - Rainbow Tr	56 days	Bioaccumulatio n Factor	25.9	Other methods
Titanium Dioxide	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulatio n Factor	9.6	Other methods
Calcium Oxide	1305-78-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Petroleum Distillates	64742-47-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Ethylbenzene	100-41-4	Experimental BCF - Other	42 days	Bioaccumulatio n Factor	1	Other methods
P,P'- Methylenebis(p henyl isocyanate)	101-68-8	Experimental BCF-Carp	28 days	Bioaccumulatio n Factor	200	OECD 305E-Bioaccum Fl-thru fis
Carbon Black	1333-86-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Bis(1,2,2,6,6- pentamethyl-4- piperidinyl) sebacate	41556-26-7	Experimental BCF-Carp	56 days	Bioaccumulatio n Factor	<31.4	Other methods

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

According to the Environmental Quality (Scheduled Wastes) Regulations 2005, scheduled waste has to be sent to a prescribed premise for recycling, treatment or disposal. Please approach Kualiti Alam for proper schedule waste classification and disposal.

SECTION 14: Transport Information

Not hazardous for transportation.

Marine Transport (IMDG)

UN Number: None assigned.

Proper Shipping Name: None assigned.

Technical Name: None assigned.

Hazard Class/Division: None assigned.

Subsidiary Risk: None assigned. Packing Group: None assigned. Limited Quantity: None assigned. Marine Pollutant: None assigned.

Marine Pollutant Technical Name: None assigned.

Other Dangerous Goods Descriptions:

None assigned.

Air Transport (IATA)

UN Number: None assigned.

Proper Shipping Name: None assigned.

Technical Name: None assigned.

Hazard Class/Division: None assigned.

Subsidiary Risk: None assigned.

Packing Group: None assigned. Limited Quantity: None assigned.

Marine Pollutant: None assigned.

Marine Pollutant Technical Name: None assigned.

Other Dangerous Goods Descriptions:

None assigned.

Transportation classifications are provided as a customer service. As for shipping, YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M's transportation classifications are based on product formulation, packaging, 3M policies and 3M's understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling or marking requirements. The above information is only for reference. If you are shipping by air or ocean, YOU are advised to check & meet applicable regulatory requirements.

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. 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.

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.

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