

# **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

3M(TM) Scotch-Weld(TM) Urethane Adhesive DP604NS Black and Urethane Adhesive 604NS Black, Part B

#### Product Identification Numbers

62-2648-8530-2 62-2648-9531-9

#### 1.2. Recommended use and restrictions on use

#### **Recommended use**

Structural adhesive

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<br/>Petaling, Jaya, SelangorTelephone:03-7884 2888E Mail:3mmyehsr@mmm.comWebsite: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

Skin Corrosion/Irritation: Category 2.Serious Eye Damage/Irritation: Category 1.Skin Sensitizer: Category 1.Specific Target Organ Toxicity (repeated exposure): Category 1.Chronic Aquatic Toxicity: Category 2.

2.2. Label elements Signal word Danger

#### Symbols

Corrosion |Exclamation mark |Health Hazard |Environment |

#### Pictograms



Hazard Statements: H315 H318 H317	Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction.
H372	Causes damage to organs through prolonged or repeated exposure: liver.
H373	May cause damage to organs through prolonged or repeated exposure: endocrine system.
H411	Toxic to aquatic life with long lasting effects.
Precautionary statements	
Prevention:	
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P273	Avoid release to the environment.
P280B	Wear protective gloves and eye/face protection.
Response:	
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact
<b>D2</b> 10	lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
Disposal:	
	Dispose of contents/container in accordance with applicable

### 2.3. Other hazards

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

# **SECTION 3: Composition/information on ingredients**

### This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
Polyether Polyol	9082-00-2	60 - 90
Diethyltoluenediamine	68479-98-1	5 - 20
Polyol	Trade Secret	1 - 10
m-xylene-alpha, alpha'-diamine	1477-55-0	< 5

# **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 skin reaction (redness, swelling, blistering, and itching). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision). 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	<u>Condition</u>
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion
Toxic Vapor, Gas, Particulate	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. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

#### 6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially

available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. 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

For industrial/occupational use only. Not for consumer sale or use. 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. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

#### 7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from oxidizing agents.

## **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	<b>Additional Comments</b>
m-xylene-alpha, alpha'-diamine	1477-55-0	ACGIH	CEIL:0.018 ppm	Danger of cutaneous
				absorption
m-xylene-alpha, alpha'-diamine	1477-55-0	Malaysia OELs	CEIL:0.1 mg/m3	SKIN

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)

#### 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: Full Face Shield Indirect Vented Goggles

#### Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective

clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity. Gloves made from the following material(s) are recommended: 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 state   Liquid     Specific Physical Form:   Viscous     Color   Dark Amber, Green, Light Amber     Odor   Slight Ammoniacal     Odor threshold   No Data Available     pH   Not Applicable     Melting point/Freezing point   No Data Available     Boiling point/Initial boiling point/Boiling range   >=210 °C     Flash Point   >=143.3 °C [Test Method:Tagliabue Closed Cup]     Evaporation rate   <=1 [Ref Std:WATER=1]     Flammability (solid, gas)   Not Applicable     Flammability (solid, gas)   Not Applicable     Flammable Limits(LEL)   Not Applicable     Flammable Limits(UEL)   Not Applicable     Vapor Pressure   Not Applicable     Vapor Density and/or Relative Vapor Density   >=1 [Ref Std:AIR=1]     Density   1.035 g/ml     Relative Density   1.035 g/ml     Relative Density   No Data Available     Solubility   Negligible     Solubility   No Data Available     Partition coefficient: n-octanol/ water   No Data Available     Autoignition temperature   Not Applicable			
Color   Dark Amber, Green, Light Amber     Odor   Slight Ammoniacal     Odor threshold   No Data Available     pH   Not Applicable     Melting point/Freezing point   No Data Available     Boiling point/Initial boiling point/Boiling range   >=210 °C     Flash Point   >=143.3 °C [Test Method:Tagliabue Closed Cup]     Evaporation rate   <=1 [Ref Std:WATER=1]     Flammability (solid, gas)   Not Applicable     Flammabile Limits(LEL)   Not Applicable     Flammable Limits(UEL)   Not Applicable     Vapor Pressure   Not Applicable     Vapor Density and/or Relative Vapor Density   >=1 [Ref Std:AIR=1]     Density   1.035 [ml     Relative Density   1.035 [Ref Std:WATER=1]     Water solubility   Negligible     Solubility- non-water   No Data Available     Partition coefficient: n-octanol/ water   No Data Available			
OdorSlight AmmoniacalOdor thresholdNo Data AvailablepHNot ApplicableMelting point/Freezing pointNo Data AvailableBoiling point/Initial boiling point/Boiling range>=210 °CFlash Point>=143.3 °C [Test Method:Tagliabue Closed Cup]Evaporation rate<=1 [Ref Std:WATER=1]			
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Evaporation rate<=1			
Flammability (solid, gas)   Not Applicable     Flammable Limits(LEL)   Not Applicable     Flammable Limits(UEL)   Not Applicable     Vapor Pressure   Not Applicable     Vapor Density and/or Relative Vapor Density   >=1 [Ref Std:AIR=1]     Density   1.035 g/ml     Relative Density   1.035 [Ref Std:WATER=1]     Water solubility   Negligible     Solubility- non-water   No Data Available     Partition coefficient: n-octanol/ water   No Data Available			
Flammable Limits(LEL)   Not Applicable     Flammable Limits(UEL)   Not Applicable     Vapor Pressure   Not Applicable     Vapor Density and/or Relative Vapor Density   >=1 [Ref Std:AIR=1]     Density   1.035 g/ml     Relative Density   1.035 [Ref Std:WATER=1]     Water solubility   Negligible     Solubility- non-water   No Data Available     Partition coefficient: n-octanol/ water   No Data Available			
Flammable Limits(UEL)   Not Applicable     Vapor Pressure   Not Applicable     Vapor Density and/or Relative Vapor Density   >=1 [Ref Std:AIR=1]     Density   1.035 g/ml     Relative Density   1.035 [Ref Std:WATER=1]     Water solubility   Negligible     Solubility- non-water   No Data Available     Partition coefficient: n-octanol/ water   No Data Available			
Vapor Pressure   Not Applicable     Vapor Density and/or Relative Vapor Density   >=1 [Ref Std: AIR=1]     Density   1.035 g/ml     Relative Density   1.035 [Ref Std: WATER=1]     Water solubility   Negligible     Solubility- non-water   No Data Available     Partition coefficient: n-octanol/ water   No Data Available			
Vapor Density and/or Relative Vapor Density   >=1   [Ref Std:AIR=1]     Density   1.035 g/ml     Relative Density   1.035 [Ref Std:WATER=1]     Water solubility   Negligible     Solubility- non-water   No Data Available     Partition coefficient: n-octanol/ water   No Data Available	11		
Density   1.035 g/ml     Relative Density   1.035 [Ref Std:WATER=1]     Water solubility   Negligible     Solubility- non-water   No Data Available     Partition coefficient: n-octanol/ water   No Data Available	11		
Relative Density   1.035 [Ref Std:WATER=1]     Water solubility   Negligible     Solubility- non-water   No Data Available     Partition coefficient: n-octanol/ water   No Data Available			
Water solubility Negligible   Solubility- non-water No Data Available   Partition coefficient: n-octanol/ water No Data Available			
Solubility- non-waterNo Data AvailablePartition coefficient: n-octanol/ waterNo Data Available			
Partition coefficient: n-octanol/ water No Data Available			
Autoignition temperature Not Applicable			
<b>Decomposition temperature</b> No Data Available	No Data Available		
Viscosity/Kinematic Viscosity 1,200 - 2,200 mPa-s	1,200 - 2,200 mPa-s		
Volatile Organic Compounds     No Data Available			
Percent volatile No Data Available			
VOC Less H2O & Exempt Solvents   0.5 g/l [Test Method:calculated SCAQMD rule 443.1]			
[Details:when used as intended with Part A]			
VOC Less H2O & Exempt Solvents 0 g/l [Test Method:calculated SCAQMD rule 443.1] [Details	as		
supplied]			
VOC Less H2O & Exempt Solvents0.05 % [Test Method:calculated SCAQMD rule 443.1]			
[Details:when used as intended with Part A]			
Molecular weight No Data Available			

# **SECTION 10: Stability and reactivity**

### 10.1. Reactivity

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

### 10.2. Chemical stability

Stable.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

#### **10.4.** Conditions to avoid

Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

#### **10.5. Incompatible materials**

Strong acids Strong oxidizing agents

### 10.6. Hazardous decomposition products

Substance None known. Condition

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.

### Skin Contact:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

## Eye Contact:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

### Ingestion:

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

#### **Additional Health Effects:**

#### Prolonged or repeated exposure may cause target organ effects:

Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

Endocrine Effects: Signs/symptoms may include disruption of gonadal, thyroid, adrenal, or pancreatic function; changes in hormone production; alterations in circulating hormone levels; and/or changes in tissue response to hormones.

#### **Additional Information:**

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

Increased numbers of tumors in the liver, thyroid, and possibly the mammary glands were observed in rats given DETDA (CAS No. 68479-98-1) in their diet for two years.

#### **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	Ingestion		No data available; calculated ATE >2,000 - =5,000
			mg/kg
Polyether Polyol	Dermal	similar	LD50 > 2,000 mg/kg
		compoun	
		ds	
Polyether Polyol	Inhalation-	similar	LC50 > 3.2  mg/l
	Dust/Mist	compoun	
	(4 hours)	ds	
Polyether Polyol	Ingestion	similar	LD50 > 5,000 mg/kg
		compoun	
		ds	
Diethyltoluenediamine	Dermal	Rat	LD50 > 2,000 mg/kg
Diethyltoluenediamine	Inhalation-	Rat	LC50 > 0.61 mg/l
	Dust/Mist		
	(4 hours)		
Diethyltoluenediamine	Ingestion	Rat	LD50 472 mg/kg
Polyol	Dermal	Rat	LD50 > 2,000 mg/kg
Polyol	Inhalation-	Rat	LC50 > 50  mg/l
	Dust/Mist		-
	(4 hours)		
Polyol	Ingestion	Rat	LD50 4,600 mg/kg
m-xylene-alpha, alpha'-diamine	Dermal	Rabbit	LD50 > 2,000 mg/kg
m-xylene-alpha, alpha'-diamine	Inhalation-	Rat	LC50 1.2 mg/l
· · · ·	Dust/Mist		-
	(4 hours)		
m-xylene-alpha, alpha'-diamine	Ingestion	Rat	LD50 980 mg/kg

ATE = acute toxicity estimate

#### **Skin Corrosion/Irritation**

Name	Species	Value
Polyether Polyol	similar	Minimal irritation
	compoun	
	ds	
Diethyltoluenediamine	Rabbit	No significant irritation
Polyol	Rabbit	No significant irritation

m-xylene-alpha, alpha'-diamine	Rat	Corrosive

#### Serious Eye Damage/Irritation

Name	Species	Value
Polyether Polyol	similar	Mild irritant
	compoun	
	ds	
Diethyltoluenediamine	Rabbit	Severe irritant
Polyol	Rabbit	Mild irritant
m-xylene-alpha, alpha'-diamine	Rabbit	Corrosive

### Sensitization:

#### Skin Sensitization

Name	Species	Value
Polyether Polyol	similar	Not classified
	compoun	
	ds	
Diethyltoluenediamine	Human	Not classified
m-xylene-alpha, alpha'-diamine	Guinea	Sensitizing
	pig	

### **Respiratory Sensitization**

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

#### Germ Cell Mutagenicity

Name	Route	Value
Polyether Polyol	In Vitro	Not mutagenic
Diethyltoluenediamine	In Vitro	Some positive data exist, but the data are not
		sufficient for classification
Diethyltoluenediamine	In vivo	Some positive data exist, but the data are not
		sufficient for classification
m-xylene-alpha, alpha'-diamine	In Vitro	Not mutagenic
m-xylene-alpha, alpha'-diamine	In vivo	Not mutagenic

### Carcinogenicity

Name	Route	Species	Value
Diethyltoluenediamine	Ingestion	Rat	Some positive data exist, but the data are not
	_		sufficient for classification

#### **Reproductive Toxicity**

### **Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure
					Duration
m-xylene-alpha, alpha'-diamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 450	1 generation
				mg/kg/day	
m-xylene-alpha, alpha'-diamine	Ingestion	Not classified for male reproduction	Rat	NOAEL 450	1 generation
	-	*		mg/kg	-
m-xylene-alpha, alpha'-diamine	Ingestion	Not classified for development	Rat	NOAEL 450	1 generation
	_	-		mg/kg/day	_

### Target Organ(s)

### Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
m-xylene-alpha, alpha'-	Inhalation	respiratory irritation	Some positive data exist, but the	Not	NOAEL Not	

diamine		data are not sufficient for	available	avaliable	
		classification			

### Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Diethyltoluenediamine	Ingestion	liver	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.4 mg/kg/day	24 months
Diethyltoluenediamine	Ingestion	endocrine system	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 1.4 mg/kg/day	24 months
Diethyltoluenediamine	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 2.8 mg/kg/day	24 months
Diethyltoluenediamine	Ingestion	eyes	Not classified	Rat	NOAEL 1.4 mg/kg/day	24 months
Diethyltoluenediamine	Ingestion	heart   skin   bone, teeth, nails, and/or hair   hematopoietic system   immune system   muscles   nervous system   respiratory system	Not classified	Rat	NOAEL 3.5 mg/kg/day	24 months
m-xylene-alpha, alpha'- diamine	Ingestion	endocrine system   blood   bone marrow	Not classified	Rat	NOAEL 600 mg/kg/day	28 days

#### **Aspiration Hazard**

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

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 2: Toxic to aquatic life.

#### Chronic aquatic hazard:

GHS Chronic 2: Toxic to aquatic life with long lasting effects

No product test data available

Material	Cas #	Organism	Туре	Exposure	Test Endpoint	Test Result
Polyether Polyol	9082-00-2		Data not available or insufficient for classification	N/A	N/A	N/A
Diethyltoluenediam ine	68479-98-1	Bacteria	Experimental	16 hours	EC10	170 mg/l
Diethyltoluenediam ine	68479-98-1	Green algae	Experimental	72 hours	EC50	104 mg/l
Diethyltoluenediam ine	68479-98-1	Water flea	Experimental	48 hours	EC50	0.5 mg/l
Diethyltoluenediam	68479-98-1	Green algae	Experimental	72 hours	NOEC	32 mg/l

ine						
Polyol	Trade Secret	Golden Orfe	Experimental	96 hours	LC50	>1,000 mg/l
Polyol	Trade Secret	Green algae	Experimental	72 hours	ErC50	>100 mg/l
Polyol	Trade Secret	Water flea	Experimental	48 hours	EC50	>100 mg/l
Polyol	Trade Secret	Green algae	Experimental	72 hours	NOEC	>100 mg/l
m-xylene-alpha, alpha'-diamine	1477-55-0	Activated sludge	Experimental	30 minutes	EC50	>1,000 mg/l
m-xylene-alpha, alpha'-diamine	1477-55-0	Bacteria	Experimental	16 hours	EC10	24 mg/l
m-xylene-alpha, alpha'-diamine	1477-55-0	Green algae	Experimental	72 hours	ErC50	28 mg/l
m-xylene-alpha, alpha'-diamine	1477-55-0	Medaka	Experimental	96 hours	LC50	87.6 mg/l
m-xylene-alpha, alpha'-diamine	1477-55-0	Water flea	Experimental	48 hours	EC50	15.2 mg/l
m-xylene-alpha, alpha'-diamine	1477-55-0	Green algae	Experimental	72 hours	NOEC	9.8 mg/l
m-xylene-alpha, alpha'-diamine	1477-55-0	Water flea	Experimental	21 days	NOEC	4.7 mg/l

## 12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Polyether Polyol	9082-00-2	Modeled Biodegradation	28 days	Biological Oxygen Demand	20 %BOD/ThOD	Catalogic™
Diethyltoluenediam ine	68479-98-1	Experimental Biodegradation	28 days	Biological Oxygen Demand	<1 %BOD/ThOD	OECD 301D - Closed Bottle Test
Polyol	Trade Secret	Experimental Biodegradation	28 days	Carbon dioxide evolution	38 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. Sturm or CO2
m-xylene-alpha, alpha'-diamine	1477-55-0	Experimental Biodegradation	28 days	Carbon dioxide evolution	49 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. Sturm or CO2
m-xylene-alpha, alpha'-diamine	1477-55-0	Experimental Aquatic Inherent Biodegrad.	28 days	Biological Oxygen Demand	22 %BOD/ThOD	OECD 302C - Modified MITI (II)

## 12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Polyether Polyol	9082-00-2	Modeled Bioconcentration		Bioaccumulation Factor	2	Catalogic™
Polyether Polyol	9082-00-2	Modeled Bioconcentration		Log of Octanol/H2O part. coeff	-2.6	Episuite™
Diethyltoluenediam ine	68479-98-1	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	1.4	
Polyol	Trade Secret	Experimental BCF - Fish	42 days	Bioaccumulation Factor	≤7	
m-xylene-alpha, alpha'-diamine	1477-55-0	Experimental BCF - Fish	42 days	Bioaccumulation Factor	<2.7	OECD305-Bioconcentration
m-xylene-alpha, alpha'-diamine	1477-55-0	Extrapolated Bioconcentration		Log of Octanol/H2O part. coeff	0.18	OECD 107 log Kow shke flsk mtd

### 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**

### Marine Transport (IMDG)

UN Number:UN3082 Proper Shipping Name:ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. Technical Name:None assigned. Hazard Class/Division:9 Subsidiary Risk:None assigned. Packing Group:III 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:UN3082 Proper Shipping Name:ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. Technical Name:None assigned. Hazard Class/Division:9 Subsidiary Risk:None assigned. Packing Group:III 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 3M 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 Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. 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.

# **SECTION 16: Other information**

DISCLAIMER: The information in this Safety Data Sheet (SDS) 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 SDS or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own evaluation to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into Malaysia, you are responsible for all applicable regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration/notification.

### 3M Malaysia SDSs are available at www.3M.com.my