



## 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.

## IDENTIFICATION

### 1.1. Product identifier

3M™ Scotchcast™ Electrical Insulating Resin 4 Kit

### 1.2. Recommended use and restrictions on use

#### Recommended use

Electrical, TWO PART CURING RESIN FOR ELECTRICAL INSULATION

### 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

This product is a kit or a multipart product which consists of multiple, independently packaged components. An SDS for each of these components is included. Please do not separate the component SDSs from this cover page. The document numbers of the SDSs for components of this product are:

24-9869-9, 24-9848-3

## TRANSPORT INFORMATION

**Marine Transport (IMDG): UN Number:** UN3267

**Proper Shipping Name:** CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.

**Hazard Class/Division:** 8

**Packing group:** III

**Limited Quantity:** Yes

**Air Transport (IATA): UN Number:** UN3267

**Proper Shipping Name:** CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.

**Hazard Class/Division:** 8

**Packing group:** III

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.

**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 Malaysia SDSs are available at [www.3M.com.my](http://www.3M.com.my)**



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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™ Scotchcast™ Electrical Insulating Resin 4, Part A and 3M™ Scotchcast™ Electrical Insulating Resin 4N, Part A

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

##### Recommended use

Electrical, Part A of Resin 4 & Resin 4N

#### 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

Serious Eye Damage/Irritation: Category 2.

Skin Sensitizer: Category 1.

#### 2.2. Label elements

##### Signal word

Warning

##### Symbols

Exclamation mark |

##### Pictograms

**Hazard Statements**

H319 Causes serious eye irritation.  
 H317 May cause an allergic skin reaction.

**Precautionary statements****Prevention:**

P280E Wear protective gloves.

**Response:**

P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

**2.3. Other hazards**

None known

## SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	25085-99-8	80 - 100
OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES	68609-97-2	0 - 20

## 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:**

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

**If Swallowed:**

Rinse mouth. If you feel unwell, get medical attention.

**4.2. Most important symptoms and effects, both acute and delayed**

See Section 11.1. Information on toxicological effects.

**4.3. Indication of any immediate medical attention and special treatment required**

Not applicable.



## SECTION 5: Fire-fighting measures

### 5.1. Suitable extinguishing media

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

### 5.2. Special hazards arising from the substance or mixture

None inherent in this product.

### Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
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

Avoid breathing 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.

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

No special storage requirements.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

No occupational exposure limit values exist for any of the components listed in Section 3 of this SDS.

## 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:

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

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

<b>Physical state</b>	Liquid
<b>Specific Physical Form:</b>	Resin
<b>Appearance/Odor</b>	Clear, amber resin with epoxy odor
<b>Odor threshold</b>	<i>No Data Available</i>
<b>pH</b>	<i>No Data Available</i>
<b>Melting point/Freezing point</b>	<i>No Data Available</i>
<b>Boiling point/Initial boiling point/Boiling range</b>	>= 93.9 °C
<b>Flash Point</b>	>= 93.9 °C [Test Method:Closed Cup]
<b>Evaporation rate</b>	<i>No Data Available</i>
<b>Flammability (solid, gas)</b>	Not Applicable
<b>Flammable Limits(LEL)</b>	<i>No Data Available</i>
<b>Flammable Limits(UEL)</b>	<i>No Data Available</i>
<b>Vapor Pressure</b>	<= 186,158.4 Pa [@ 55 °C ]
<b>Vapor Density</b>	<i>No Data Available</i>
<b>Density</b>	1.16 g/ml

Relative Density	1.16 [Ref Std: WATER=1]
Water solubility	Negligible
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	3,000 mPa-s - 5,000 mPa-s
Average particle size	No Data Available
Bulk density	No Data Available
Molecular weight	No Data Available
Volatile Organic Compounds	No Data Available
Percent volatile	Negligible
Softening point	No Data Available
VOC Less H2O & Exempt Solvents	No Data Available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

This material is considered to be non reactive under normal use conditions.

### 10.2. Chemical stability

Stable.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

None known.

### 10.5. Incompatible materials

None known.

### 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 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:**

No known health effects.

**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:**

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Ingestion:**

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

**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	Ingestion		No data available; calculated ATE >5,000 mg/kg
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	Dermal	Rat	LD50 > 1,600 mg/kg
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	Ingestion	Rat	LD50 > 1,000 mg/kg
OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES	Dermal	Rabbit	LD50 > 4,000 mg/kg
OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES	Ingestion	Rat	LD50 17,100 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	Rabbit	Mild irritant
OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES	Rabbit	Mild irritant

**Serious Eye Damage/Irritation**

Name	Species	Value
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	Rabbit	Moderate irritant
OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES	Rabbit	Mild irritant

**Skin Sensitization**

Name	Species	Value
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	Human and animal	Sensitizing
OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES	Guinea pig	Sensitizing

**Respiratory Sensitization**

Name	Species	Value
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	Human	Not classified

**Germ Cell Mutagenicity**

Name	Route	Value
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	In vivo	Not mutagenic
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	In Vitro	Some positive data exist, but the data are not

		sufficient for classification
OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES	In vivo	Not mutagenic
OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES	In Vitro	Some positive data exist, but the data are not sufficient for classification

### Carcinogenicity

Name	Route	Species	Value
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	Dermal	Mouse	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
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES	Dermal	Not classified for development	Rat	NOAEL 200 mg/kg/day	during organogenesis

### Target Organ(s)

#### Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES	Dermal	heart   blood   liver   nervous system   kidney and/or bladder	Not classified	Rabbit	NOAEL 4,000 mg/kg	24 hours

#### Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	Ingestion	auditory system   heart   endocrine system   hematopoietic system   liver   eyes   kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES	Dermal	nervous system   respiratory system	Not classified	Rat	NOAEL 100 mg/kg/day	14 weeks
OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES	Dermal	blood   liver   eyes   kidney and/or bladder	Not classified	Rat	NOAEL 100 mg/kg/day	13 weeks

### 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:

Not acutely toxic to aquatic life by GHS criteria.

#### 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
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	25085-99-8		Data not available or insufficient for classification			
OXIRANE, MONO[(C12-14-ALKYLOXY) METHYL]DERIVATIVES	68609-97-2	Green Algae	Experimental	72 hours	Inhibitory Concentration 50%	843.75 mg/l
OXIRANE, MONO[(C12-14-ALKYLOXY) METHYL]DERIVATIVES	68609-97-2	Rainbow Trout	Experimental	96 hours	Lethal Concentration 50%	>5,000 mg/l
OXIRANE, MONO[(C12-14-ALKYLOXY) METHYL]DERIVATIVES	68609-97-2	Water flea	Experimental	48 hours	Effect Concentration 50%	7.2 mg/l
OXIRANE, MONO[(C12-14-ALKYLOXY) METHYL]DERIVATIVES	68609-97-2	Green Algae	Experimental	72 hours	No obs Effect Conc	500 mg/l

### 12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
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2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	25085-99-8	Estimated Biodegradation	28 days	Biological Oxygen Demand	0 % weight	OECD 301C - MITI (I)
OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES	68609-97-2	Experimental Biodegradation	28 days	Biological Oxygen Demand	34.7 % weight	OECD 301D - Closed Bottle Test

### 12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
2,2-Bis(p-hydroxyphenyl)propane diglycidyl ether polymer	25085-99-8	Estimated BCF-Carp	28 days	Bioaccumulation Factor	<= 42	Other methods
OXIRANE, MONO[(C12-14-ALKYLOXY)METHYL]DERIVATIVES	68609-97-2	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	3.77	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:**UN3267

**Proper Shipping Name:**CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.

**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:** UN3267

**Proper Shipping Name:** CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.

**Technical Name:** None assigned.

**Hazard Class/Division:** 8

**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 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 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 Malaysia SDSs are available at [www.3M.com.my](http://www.3M.com.my)**





## Safety Data Sheet

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<b>Issue Date:</b>	03/10/2018	<b>Supersedes Date:</b>	31/03/2014

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™ Scotchcast™ Electrical Insulating Resin 4, Part B

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

##### Recommended use

Electrical, PART B OF RESIN 4

#### 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

Acute Toxicity (oral): Category 4.  
Acute Toxicity (dermal): Category 4.  
Serious Eye Damage/Irritation: Category 1.  
Skin Corrosion/Irritation: Category 1.  
Skin Sensitizer: Category 1.  
Reproductive Toxicity: Category 2.  
Carcinogenicity: Category 1B.  
Acute Aquatic Toxicity: Category 1.  
Chronic Aquatic Toxicity: Category 1.

#### 2.2. Label elements

##### Signal word

Danger

##### Symbols

Corrosion | Exclamation mark | Health Hazard | Environment |

**Pictograms**



**Hazard Statements**

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H361	Suspected of damaging fertility or the unborn child.
H350	May cause cancer.
H410	Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

**Prevention:**

P201	Obtain special instructions before use.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P280D	Wear protective gloves, protective clothing, and eye/face protection.
P281	Use personal protective equipment as required.
P264	Wash thoroughly after handling.
P273	Avoid release to the environment.

**Response:**

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact 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.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.

**Storage:**

P405	Store locked up.
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**Disposal:**

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

May cause chemical gastrointestinal burns.

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

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
PHENOL, 4-NONYL-, branched	84852-15-3	15 - 40
HEAVY NAPHTHENIC DISTILLATE SOLVENT PETROLEUM EXTRACTS	64742-11-6	5 - 20
N-AMINOETHYLPIPERAZINE	140-31-8	5 - 20
REACTION PRODUCTS WITH TRIETHYLENETETRAMINE	Trade Secret	5 - 20
REACTION PRODUCTS WITH TETA AND DGEBA	Trade Secret	4 - 10
PETROLEUM DISTILLATES	Trade Secret	1 - 6
REACTION PRODUCTS WITH ETHER	Trade Secret	1 - 6
TRIS(2,4,6- DIMETHYLAMINOMONOMETHYL)PH ENOL	90-72-2	1 - 5
TRIETHYLENETETRAMINE	112-24-3	1 - 3
CARBON BLACK	1333-86-4	< 1
DIETHYLENETRIAMINE	111-40-0	0 - 0.2
(2-AMINOETHYL)ETHANOLAMINE	111-41-1	0 - 0.12

## 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 flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

#### 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. Do not induce vomiting. Get immediate 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

#### Substance

Amine Compounds

#### Condition

During Combustion

Carbon monoxide  
 Carbon dioxide  
 Oxides of Nitrogen

During Combustion  
 During Combustion  
 During Combustion

**5.3. Special protective actions for fire-fighters**

No special protective actions for fire-fighters are anticipated.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

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

**6.2. Environmental precautions**

Avoid release to the environment.

**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**

Do not use in a confined area with minimal air exchange. 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**

Store in a well-ventilated place. Keep container tightly closed. Store away from acids.

**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
DIETHYLENETRIAMINE	111-40-0	ACGIH	TWA:1 ppm	SKIN
DIETHYLENETRIAMINE	111-40-0	Malaysia OELs	TWA(8 hours):4.2 mg/m3(1 ppm)	SKIN
CARBON BLACK	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m3	A3: Confirmed animal carcin.
CARBON BLACK	1333-86-4	Malaysia OELs	TWA(8 hours):3.5 mg/m3	
OIL MIST, MINERAL	64742-11-6	Malaysia OELs	TWA(as mist)(8 hours):5	

mg/m3

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 supplied-air respirator

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

<b>Physical state</b>	Liquid
<b>Specific Physical Form:</b>	Resin
<b>Appearance/Odor</b>	Smooth, black liquid with amine odor
<b>Odor threshold</b>	<i>No Data Available</i>
<b>pH</b>	<i>No Data Available</i>
<b>Melting point/Freezing point</b>	<i>No Data Available</i>
<b>Boiling point/Initial boiling point/Boiling range</b>	>= 93.3 °C
<b>Flash Point</b>	>= 93.3 °C [Test Method:Closed Cup]
<b>Evaporation rate</b>	<i>No Data Available</i>
<b>Flammability (solid, gas)</b>	Not Applicable

Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Vapor Pressure	<= 186,158.4 Pa [ @ 55 °C ]
Vapor Density	No Data Available
Density	1.04 g/ml
Relative Density	1.04 [Ref Std: WATER=1]
Water solubility	Negligible
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	2,200 mPa-s - 3,500 mPa-s
Average particle size	No Data Available
Bulk density	No Data Available
Molecular weight	No Data Available
Volatile Organic Compounds	No Data Available
Percent volatile	3 % - 5 %
Softening point	No Data Available
VOC Less H2O & Exempt Solvents	No Data Available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

This material is considered to be non reactive under normal use conditions.

### 10.2. Chemical stability

Stable.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

None known.

### 10.5. Incompatible materials

None known.

No Data Available

### 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 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.

#### Skin Contact:

Harmful in contact with skin. Corrosive (Skin Burns): Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

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:

Harmful if swallowed. Gastrointestinal Corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain; nausea; vomiting; and diarrhea; blood in the feces and/or vomitus may also be seen.

#### Additional Health Effects:

#### Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

#### Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

#### Toxicological Data

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

#### Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE1,000 - 2,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE300 - 2,000 mg/kg
PHENOL, 4-NONYL-, branched	Dermal	Rabbit	LD50 > 2,000 mg/kg
PHENOL, 4-NONYL-, branched	Ingestion	Rat	LD50 1,531 mg/kg
N-AMINOETHYLPIPERAZINE	Dermal	Rabbit	LD50 865 mg/kg
N-AMINOETHYLPIPERAZINE	Ingestion	Rat	LD50 1,470 mg/kg
TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL	Dermal	Rat	LD50 1,280 mg/kg
TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL	Ingestion	Rat	LD50 1,000 mg/kg
TRIETHYLENETETRAMINE	Dermal	Rabbit	LD50 550 mg/kg
TRIETHYLENETETRAMINE	Ingestion	Rat	LD50 2,500 mg/kg
DIETHYLENETRIAMINE	Dermal	Rabbit	LD50 1,045 mg/kg
DIETHYLENETRIAMINE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.07 mg/l
DIETHYLENETRIAMINE	Ingestion	Rat	LD50 819 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
PHENOL, 4-NONYL-, branched	Rabbit	Corrosive
N-AMINOETHYLPIPERAZINE	Rabbit	Corrosive
TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL	Rabbit	Corrosive
TRIETHYLENETETRAMINE	Rabbit	Corrosive
DIETHYLENETRIAMINE	Rabbit	Corrosive
CARBON BLACK	Rabbit	No significant irritation

**Serious Eye Damage/Irritation**

Name	Species	Value
PHENOL, 4-NONYL-, branched	Rabbit	Corrosive
N-AMINOETHYLPIPERAZINE	Rabbit	Corrosive
TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL	Rabbit	Corrosive
TRIETHYLENETETRAMINE	Rabbit	Corrosive
DIETHYLENETRIAMINE	Rabbit	Corrosive
CARBON BLACK	Rabbit	No significant irritation

**Skin Sensitization**

Name	Species	Value
PHENOL, 4-NONYL-, branched	Guinea pig	Not classified
N-AMINOETHYLPIPERAZINE	Guinea pig	Sensitizing
TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL	Guinea pig	Not classified
TRIETHYLENETETRAMINE	Guinea pig	Sensitizing
DIETHYLENETRIAMINE	Guinea pig	Sensitizing

**Respiratory Sensitization**

Name	Species	Value
DIETHYLENETRIAMINE	Human	Sensitizing

**Germ Cell Mutagenicity**

Name	Route	Value
PHENOL, 4-NONYL-, branched	In Vitro	Not mutagenic
PHENOL, 4-NONYL-, branched	In vivo	Not mutagenic
N-AMINOETHYLPIPERAZINE	In vivo	Not mutagenic
N-AMINOETHYLPIPERAZINE	In Vitro	Some positive data exist, but the data are not sufficient for classification
TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL	In Vitro	Not mutagenic
DIETHYLENETRIAMINE	In Vitro	Not mutagenic
CARBON BLACK	In Vitro	Not mutagenic
CARBON BLACK	In vivo	Some positive data exist, but the data are not sufficient for classification

**Carcinogenicity**

Name	Route	Species	Value
DIETHYLENETRIAMINE	Dermal	Multiple animal species	Not carcinogenic
CARBON BLACK	Dermal	Mouse	Not carcinogenic
CARBON BLACK	Ingestion	Mouse	Not carcinogenic



CARBON BLACK	Inhalation	Rat	Carcinogenic
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## Reproductive Toxicity

### Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
PHENOL, 4-NONYL-, branched	Ingestion	Not classified for male reproduction	Rat	NOAEL 400 mg/kg/day	28 days
PHENOL, 4-NONYL-, branched	Ingestion	Toxic to female reproduction	official classification	NOAEL Not available	
PHENOL, 4-NONYL-, branched	Ingestion	Toxic to development	official classification	NOAEL Not available	
N-AMINOETHYLPIPERAZINE	Ingestion	Not classified for female reproduction	Rat	NOAEL 598 mg/kg/day	prematuring & during gestation
N-AMINOETHYLPIPERAZINE	Ingestion	Not classified for male reproduction	Rat	NOAEL 409 mg/kg/day	32 days
N-AMINOETHYLPIPERAZINE	Ingestion	Not classified for development	Rat	NOAEL 899 mg/kg/day	prematuring & during gestation
DIETHYLENETRIAMINE	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	28 days
DIETHYLENETRIAMINE	Ingestion	Not classified for development	Rat	NOAEL 300 mg/kg/day	prematuring & during gestation
DIETHYLENETRIAMINE	Ingestion	Not classified for female reproduction	Rat	NOAEL 30 mg/kg/day	prematuring & during gestation

## Lactation

Name	Route	Species	Value
PHENOL, 4-NONYL-, branched	Ingestion	Rat	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
N-AMINOETHYLPIPERAZINE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
TRIS(2,4,6-DIMETHYLAMINOMETHYL)PHENOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
DIETHYLENETRIAMINE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	

### Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
PHENOL, 4-NONYL-, branched	Ingestion	endocrine system   hematopoietic system   liver	Not classified	Rat	NOAEL 400 mg/kg/day	28 days
PHENOL, 4-NONYL-, branched	Ingestion	kidney and/or bladder   heart   bone, teeth, nails, and/or hair   immune system   muscles   nervous system   respiratory	Not classified	Rat	NOAEL 150 mg/kg/day	90 days

N-AMINOETHYLPIPERAZINE	Ingestion	system heart   endocrine system   hematopoietic system   liver   nervous system   kidney and/or bladder	Not classified	Rat	NOAEL 598 mg/kg/day	28 days
TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL	Dermal	skin   liver   nervous system   auditory system   hematopoietic system   eyes	Not classified	Rat	NOAEL 125 mg/kg/day	28 days
DIETHYLENETRIAMINE	Ingestion	endocrine system   liver   kidney and/or bladder	Not classified	Rat	NOAEL 1,210 mg/kg/day	90 days
CARBON BLACK	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure

**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 1: Very toxic to aquatic life.

**Chronic aquatic hazard:**

GHS Chronic 1: Very toxic to aquatic life with long lasting effects.

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
PHENOL, 4-NONYL-, branched	84852-15-3	Diatom	Experimental	96 hours	Effect Concentration 50%	0.027 mg/l
PHENOL, 4-NONYL-, branched	84852-15-3	Crustacea other	Experimental	96 hours	Effect Concentration 50%	0.043 mg/l
PHENOL, 4-NONYL-, branched	84852-15-3	Fathead Minnow	Experimental	96 hours	Lethal Concentration 50%	0.128 mg/l
PHENOL, 4-NONYL-, branched	84852-15-3	Crustacea other	Experimental	28 days	No obs Effect Conc	0.0039 mg/l
PHENOL, 4-NONYL-,	84852-15-3	Fathead Minnow	Experimental	33 days	No obs Effect Conc	0.0074 mg/l

branched						
HEAVY NAPHTHENIC DISTILLATE SOLVENT PETROLEUM EXTRACTS	64742-11-6	Green Algae	Estimated	72 hours	Effect Concentration 50%	3.1 mg/l
HEAVY NAPHTHENIC DISTILLATE SOLVENT PETROLEUM EXTRACTS	64742-11-6	Water flea	Estimated	48 hours	Effect Concentration 50%	1.4 mg/l
N-AMINOETHYLPIPERAZINE	140-31-8	Green Algae	Experimental	72 hours	Effect Concentration 50%	>1,000 mg/l
N-AMINOETHYLPIPERAZINE	140-31-8	Water flea	Experimental	48 hours	Effect Concentration 50%	58 mg/l
N-AMINOETHYLPIPERAZINE	140-31-8	Golden Orfe	Experimental	96 hours	Lethal Concentration 50%	368 mg/l
N-AMINOETHYLPIPERAZINE	140-31-8	Green Algae	Experimental	72 hours	No obs Effect Conc	31 mg/l
REACTION PRODUCTS WITH TRIETHYLEN ETETRAMINE	Trade Secret		Data not available or insufficient for classification			
REACTION PRODUCTS WITH TETA AND DGEBA	Trade Secret		Data not available or insufficient for classification			
PETROLEUM DISTILLATES	Trade Secret	Green Algae	Estimated	72 hours	Effect Level 50%	0.32 mg/l
PETROLEUM DISTILLATES	Trade Secret	Rainbow Trout	Estimated	96 hours	Lethal Level 50%	79 mg/l
PETROLEUM DISTILLATES	Trade Secret	Water flea	Estimated	48 hours	Effect Level 50%	0.22 mg/l
PETROLEUM DISTILLATES	Trade Secret	Green Algae	Estimated	72 hours	No obs Effect Level	0.05 mg/l
REACTION PRODUCTS WITH ETHER	Trade Secret		Data not available or insufficient for classification			
TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL	90-72-2	Common Carp	Experimental	96 hours	Lethal Concentration 50%	175 mg/l
TRIS(2,4,6-	90-72-2	Green algae	Experimental	72 hours	Effect	84 mg/l

DIMETHYLA MINOMONO METHYL)PH ENOL					Concentration 50%	
TRIS(2,4,6- DIMETHYLA MINOMONO METHYL)PH ENOL	90-72-2	Grass Shrimp	Experimental	96 hours	Lethal Concentration 50%	718 mg/l
TRIS(2,4,6- DIMETHYLA MINOMONO METHYL)PH ENOL	90-72-2	Green algae	Experimental	72 hours	No obs Effect Conc	6.25 mg/l
TRIETHYLEN ETETRAMIN E	112-24-3	Water flea	Experimental	48 hours	Effect Concentration 50%	31.1 mg/l
TRIETHYLEN ETETRAMIN E	112-24-3	Guppy	Experimental	96 hours	Lethal Concentration 50%	570 mg/l
TRIETHYLEN ETETRAMIN E	112-24-3	Green algae	Experimental	72 hours	Effect Concentration 50%	20 mg/l
CARBON BLACK	1333-86-4		Data not available or insufficient for classification			
DIETHYLENE TRIAMINE	111-40-0	Water flea	Experimental	48 hours	Effect Concentration 50%	16 mg/l
DIETHYLENE TRIAMINE	111-40-0	Guppy	Experimental	96 hours	Lethal Concentration 50%	430 mg/l
DIETHYLENE TRIAMINE	111-40-0	Green Algae	Experimental	72 hours	Effect Concentration 50%	1,164 mg/l
DIETHYLENE TRIAMINE	111-40-0	Green algae	Experimental	72 hours	No obs Effect Conc	10 mg/l
DIETHYLENE TRIAMINE	111-40-0	Water flea	Experimental	21 days	No obs Effect Conc	5.6 mg/l
DIETHYLENE TRIAMINE	111-40-0	Three-spined stickleback	Experimental	28 days	No obs Effect Conc	>10 mg/l
(2- AMINOETHY L)ETHANOL AMINE	111-41-1	Fathead Minnow	Experimental	96 hours	Lethal Concentration 50%	640 mg/l
(2- AMINOETHY L)ETHANOL AMINE	111-41-1	Diatom	Experimental	72 hours	Effect Concentration 50%	920 mg/l
(2- AMINOETHY L)ETHANOL AMINE	111-41-1	Green algae	Experimental	72 hours	Effect Concentration 50%	353.6 mg/l
(2-	111-41-1	Green algae	Experimental	72 hours	Effect	134 mg/l

AMINOETHYL)ETHANOL AMINE					Concentration 10%	
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**12.2. Persistence and degradability**

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
PHENOL, 4-NONYL-, branched	84852-15-3	Estimated Photolysis		Photolytic half-life (in air)	7.5 hours (t <sub>1/2</sub> )	Other methods
PHENOL, 4-NONYL-, branched	84852-15-3	Experimental Biodegradation	28 days	Carbon dioxide evolution	53 % weight	OECD 301B - Mod. Sturm or CO <sub>2</sub>
HEAVY NAPHTHENIC DISTILLATE SOLVENT PETROLEUM EXTRACTS	64742-11-6	Estimated Biodegradation	28 days	Biological Oxygen Demand	0 % weight	Other methods
N-AMINOETHYLPIPERAZINE	140-31-8	Experimental Biodegradation	28 days	Biological Oxygen Demand	0 % BOD/ThBOD	OECD 301C - MITI (I)
REACTION PRODUCTS WITH TRIETHYLEN ETETRAMINE	Trade Secret	Data not available - insufficient			N/A	
REACTION PRODUCTS WITH TETA AND DGEBA	Trade Secret	Estimated Biodegradation	28 days	Biological Oxygen Demand	35 % weight	OECD 301C - MITI (I)
PETROLEUM DISTILLATES	Trade Secret	Data not available - insufficient			N/A	
REACTION PRODUCTS WITH ETHER	Trade Secret	Data not available - insufficient			N/A	
TRIS(2,4,6-DIMETHYLAMINOMONOMETHYL)PHENOL	90-72-2	Experimental Biodegradation	28 days	Biological Oxygen Demand	4 % weight	OECD 301D - Closed Bottle Test
TRIETHYLEN ETETRAMINE	112-24-3	Experimental Biodegradation	20 days	Biological Oxygen Demand	0 % weight	OECD 301D - Closed Bottle Test
CARBON BLACK	1333-86-4	Data not available - insufficient			N/A	
DIETHYLENE TRIAMINE	111-40-0	Experimental Biodegradation	21 days	Biological Oxygen Demand	87 % weight	OECD 301D - Closed Bottle Test
(2-AMINOETHYL	111-41-1	Experimental Biodegradation	28 days	Biological Oxygen	>66.3 % BOD/ThBOD	OECD 301F - Manometric Respiro

L)ETHANOL AMINE				Demand		
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### 12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
PHENOL, 4-NONYL-, branched	84852-15-3	Experimental BCF - Other	16 days	Bioaccumulation Factor	2168	Other methods
HEAVY NAPHTHENIC DISTILLATE SOLVENT PETROLEUM EXTRACTS	64742-11-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
N-AMINOETHYLPIPERAZINE	140-31-8	Experimental Bioconcentration		Log of Octanol/H <sub>2</sub> O part. coeff	0.3	Other methods
REACTION PRODUCTS WITH TRIETHYLEN ETETRAMINE	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
REACTION PRODUCTS WITH TETA AND DGEBA	Trade Secret	Estimated Bioconcentration		Bioaccumulation Factor	7.4	Est: Bioconcentration factor
PETROLEUM DISTILLATES	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
REACTION PRODUCTS WITH ETHER	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
TRIS(2,4,6-DIMETHYLAMINOMETHYL)PHENOL	90-72-2	Experimental Bioconcentration		Log of Octanol/H <sub>2</sub> O part. coeff	-0.66	Other methods
TRIETHYLEN ETETRAMINE	112-24-3	Experimental BCF-Carp	42 days	Bioaccumulation Factor	<5.0	OECD 305E-Bioaccum FI-thru fis
CARBON BLACK	1333-86-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
DIETHYLENE TRIAMINE	111-40-0	Experimental BCF-Carp	42 days	Bioaccumulation Factor	≤6.3	OECD 305E-Bioaccum FI-thru fis
(2-AMINOETHYL)ETHANOL AMINE	111-41-1	Experimental BCF-Carp	42 days	Bioaccumulation Factor	<3.7	OECD 305E-Bioaccum FI-thru fis

#### 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:**UN3267

**Proper Shipping Name:**CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.

**Technical Name:**(n-aminoethylpiperazine / phenol, 4-nonyl-, branched /

**Hazard Class/Division:**8

**Subsidiary Risk:**None assigned.

**Packing Group:**III

**Limited Quantity:**Yes

**Marine Pollutant:** Yes

**Marine Pollutant Technical Name:** (Phenol, 4-nonyl-, branched / Reaction products with triethylenetetramine)

**Other Dangerous Goods Descriptions:**

None assigned.

#### Air Transport (IATA)

**UN Number:**UN3267

**Proper Shipping Name:**CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S.

**Technical Name:**(n-aminoethylpiperazine / phenol, 4-nonyl-, branched /

**Hazard Class/Division:**8

**Subsidiary Risk:**None assigned.

**Packing Group:**III

**Limited Quantity:**None assigned.

**Marine Pollutant:** Yes

**Marine Pollutant Technical Name:** (Phenol, 4-nonyl-, branched / Reaction products with triethylenetetramine)

**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 product are in compliance with the chemical notification requirements of TSCA.

**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 Malaysia SDSs are available at [www.3M.com.my](http://www.3M.com.my)**