



Safety Data Sheet

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Document group:	41-8669-8	Version number:	1.02
Revision date:	30/04/2021	Supersedes date:	05/10/2020
Transportation version number: 1.02 (30/04/2021)			

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

3M Scotchcast Electrical Insulating Resin 4GS - 41-8669-8 Kit

Product Identification Numbers

UU-0110-2650-5	UU-0110-2712-3	UU-0110-2828-7	UU-0110-2831-1	UU-0110-2841-0
7100229841	7100229874	7100229425	7100229877	7100229863

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Resin

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com

Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet for each of these components is included. Please do not separate the component Safety Data Sheets from this cover page. The document numbers of the MSDSs for components of this product are:

38-7385-8, 38-7384-1

TRANSPORTATION INFORMATION

UU-0110-2650-5, UU-0110-2712-3, UU-0110-2828-7, UU-0110-2831-1,

UU-0110-2841-0

Component 1

ADR/RID: UN3082, NOT RESTRICTED AS PER SPECIAL PROVISION 375, ENVIRONMENTALLY HAZARDOUS SUBSTANCE EXEMPTION, (EPOXY RESIN), (EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN), III, --.

IMDG-CODE: UN3082, NOT RESTRICTED AS PER IMDG CODE 2.10.2.7, MARINE POLLUTANT EXCEPTION, (EPOXY RESIN), (EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN), III, IMDG-Code segregation code: NONE, EMS: --.

ICAO/IATA: FORBIDDEN: NOT ALLOWED FOR AIR FREIGHT

Component 2

ADR/RID: UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. LIMITED QUANTITY, (4-AMINOPROPYL MORPHOLINE), (M-PHENYLENEBIS(METHYLAMINE)), 8., II , (E), ADR Classification Code: C7.

IMDG-CODE: UN2735, AMINES, LIQUID, CORROSIVE, N.O.S., (4-AMINOPROPYL MORPHOLINE), (M-PHENYLENEBIS(METHYLAMINE)), 8., II , IMDG-Code segregation code: 18- ALKALIS, LIMITED QUANTITY, EMS: FA,SB.

ICAO/IATA: FORBIDDEN: NOT ALLOWED FOR AIR FREIGHT

KIT LABEL

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

Skin Corrosion/Irritation, Category 1B - Skin Corr. 1B; H314

Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318

Skin Sensitization, Category 1A - Skin Sens. 1A; H317

Hazardous to the Aquatic Environment (Chronic), Category 2 - Aquatic Chronic 2; H411

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

DANGER.

Symbols

GHS05 (Corrosion) | GHS07 (Exclamation mark) | GHS09 (Environment) |

Pictograms



Contains:

3,6-diazaoctanethylenediamin; 3-morpholinopropylamine; m-Xylene-.alpha.alpha'.-diamine; bis-[4-(2,3-epoxipropoxy)phenyl]propane; Cashew Nutshell Extract, Decarboxylated, Distilled; Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol

HAZARD STATEMENTS:

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P260A	Do not breathe vapours.
P280D	Wear protective gloves, protective clothing, and eye/face protection.

Response:

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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 CENTRE or doctor/physician.

Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.
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Refer to Safety Data Sheet for component % unknown values (www.3M.com/msds).

Revision information:

Section 1: Product identification numbers information was modified.

Section 01: SAP Material Numbers information was modified.

Label: CLP Classification information was modified.

Label: CLP Precautionary - Response information was modified.



Safety Data Sheet

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Document group:	38-7385-8	Version number:	4.00
Revision date:	04/06/2020	Supersedes date:	19/02/2020
Transportation version number:	1.00 (26/06/2018)		

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

3M Scotchcast Electrical Insulating Resin 4 GS Part B

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Resin

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318
Skin Corrosion/Irritation, Category 1B - Skin Corr. 1B; H314
Skin Sensitization, Category 1A - Skin Sens. 1A; H317

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

DANGER.

Symbols:

GHS05 (Corrosion) | GHS07 (Exclamation mark) |

Pictograms**Ingredients:**

Ingredient	CAS Nbr	EC No.	% by Wt
Cashew Nutshell Extract, Decarboxylated, Distilled	8007-24-7	232-355-4	10 - 15
3-morpholinopropylamine	123-00-2	204-590-2	1 - 2.5
m-phenylenebis(methylamine)	1477-55-0	216-032-5	1 - 2
3,6-diazaoctanethylenediamin	112-24-3	203-950-6	0.1 - 1.5

HAZARD STATEMENTS:

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS**Prevention:**

P260A	Do not breathe vapours.
P280D	Wear protective gloves, protective clothing, and eye/face protection.

Response:

P303 + P361 + P353A	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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 CENTRE or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

24% of the mixture consists of components of unknown acute oral toxicity.

24% of the mixture consists of components of unknown acute dermal toxicity.

Contains 26% of components with unknown hazards to the aquatic environment.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
Aluminium hydroxide	21645-51-2	244-492-7	01-2119529246-39	30 - 60	Substance with an occupational exposure limit
ALKYL PHENOL POLYAMINE	Trade			10 - 30	Substance not classified as

	Secret				hazardous
Cashew Nutshell Extract, Decarboxylated, Distilled	8007-24-7	232-355-4		10 - 15	Aquatic Chronic 3, H412 Skin Irrit. 2, H315; Eye Dam. 1, H318; Skin Sens. 1A, H317
Amido Amine Polyether Polymer	Trade Secret			1 - 5	Substance not classified as hazardous
Toluene-4-sulphonic acid	104-15-4	203-180-0		1 - 4	Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335
3-morpholinopropylamine	123-00-2	204-590-2		1 - 2.5	Skin Corr. 1B, H314 Acute Tox. 4, H312
m-phenylenebis(methylamine)	1477-55-0	216-032-5		1 - 2	Acute Tox. 4, H332; Acute Tox. 4, H302; Skin Corr. 1B, H314; Skin Sens. 1, H317; Aquatic Chronic 3, H412
3,6-diazaoctanethylenediamin	112-24-3	203-950-6		0.1 - 1.5	Acute Tox. 3, H311; Skin Corr. 1B, H314; Skin Sens. 1A, H317; Aquatic Chronic 3, H412
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	202-013-9		0.1 - 1.5	Acute Tox. 4, H302 Skin Corr. 1C, H314; Eye Dam. 1, H318
Disodium oxide	1313-59-3	215-208-9		< 0.3	EUH014; Acute Tox. 3, H301; Skin Corr. 1B, H314; STOT SE 3, H335

Please see section 16 for the full text of any H statements referred to in this section

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

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. 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>
Amine compounds.	During combustion.
Carbon monoxide	During combustion.
Carbon dioxide.	During combustion.
Hydrogen Sulfide	During combustion.
Oxides of sulphur.	During combustion.
Toxic vapour, gas, particulate.	During combustion.

5.3. Advice 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 vapours, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

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 authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid breathing dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Keep away from reactive metals (eg. Aluminium, zinc etc.) to avoid the formation of hydrogen gas that could create an explosion hazard.

7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from strong bases. Store away from oxidising agents.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Occupational exposure limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
DUST, INERT OR NUISANCE	21645-51-2	UK HSC	TWA(as respirable dust):4 mg/m ³ ;TWA(as inhalable dust):10 mg/m ³	

UK HSC : UK Health and Safety Commission

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

Biological limit values

No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

Recommended monitoring procedures:Information on recommended monitoring procedures can be obtained from UK HSC

8.2. Exposure controls**8.2.1. Engineering controls**

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

8.2.2. Personal protective equipment (PPE)**Eye/face protection**

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

Full face shield.

Indirect vented goggles.

Applicable Norms/Standards

Use eye/face protection conforming to EN 166

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.

Gloves made from the following material(s) are recommended:

Material	Thickness (mm)	Breakthrough Time
Butyl rubber.	0.5	> 8 hours

The glove data presented are based on the substance driving dermal toxicity and the conditions present at the time of testing.

Breakthrough time may be altered when the glove is subjected to use conditions that place additional stress on the glove.

Applicable Norms/Standards

Use gloves tested to EN 374

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 – Butyl rubber

Respiratory protection

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

Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

Applicable Norms/Standards

Use a respirator conforming to EN 140 or EN 136: filter types A & P

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state

Liquid.

Colour

Yellow

Specific Physical Form:

Slurry

Odor

Amine

Odour threshold

No data available.

pH

Not applicable.

Boiling point/boiling range

Not applicable.

Melting point

No data available.

Flammability (solid, gas)

Not applicable.

Explosive properties

Not classified

Oxidising properties

Not classified

Flash point

> 100 °C [Test Method: Closed Cup]

Autoignition temperature

Not applicable.

Flammable Limits(LEL)

No data available.

Flammable Limits(UEL)

No data available.

Relative density

1.5 [Ref Std: WATER=1]

Water solubility

Slight (less than 10%)

Solubility- non-water

No data available.

Partition coefficient: n-octanol/water

No data available.

Evaporation rate

Not applicable.

Vapour density

Not applicable.

Decomposition temperature

> 200 °C

Viscosity

6,000 - 9,000 mPa-s

Density

1.5 kg/l

9.2. Other information

EU Volatile Organic Compounds

No data available.

Percent volatile

Nil

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

Accelerators

Strong acids.

Strong bases.

Strong oxidising agents.

Zinc

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 agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

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 localised 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

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

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 >5,000 mg/kg
Aluminium hydroxide	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminium hydroxide	Ingestion	Rat	LD50 > 5,000 mg/kg
Cashew Nutshell Extract, Decarboxylated, Distilled	Dermal	Rat	LD50 > 2,000 mg/kg
Cashew Nutshell Extract, Decarboxylated, Distilled	Ingestion	Rat	LD50 > 2,000 mg/kg
Toluene-4-sulphonic acid	Dermal	Rabbit	LD50 2,000 mg/kg
Toluene-4-sulphonic acid	Inhalation-Dust/Mist (4 hours)	Rat	LC50 207 mg/l
Toluene-4-sulphonic acid	Ingestion	Rat	LD50 1,410 mg/kg
3-morpholinopropylamine	Dermal	Rabbit	LD50 1,214 mg/kg
3-morpholinopropylamine	Ingestion	Rat	LD50 3,560 mg/kg
m-phenylenebis(methylamine)	Dermal	Rabbit	LD50 > 2,000 mg/kg
m-phenylenebis(methylamine)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 1.2 mg/l
m-phenylenebis(methylamine)	Ingestion	Rat	LD50 980 mg/kg
3,6-diazaoctanethylenediamin	Dermal	Rabbit	LD50 550 mg/kg
3,6-diazaoctanethylenediamin	Ingestion	Rat	LD50 2,500 mg/kg
2,4,6-tris(dimethylaminomethyl)phenol	Dermal	Rat	LD50 1,280 mg/kg
2,4,6-tris(dimethylaminomethyl)phenol	Ingestion	Rat	LD50 1,000 mg/kg
Disodium oxide	Ingestion	Professional judgement	LD50 estimated to be 50 - 300 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Aluminium hydroxide	Rabbit	No significant irritation
Cashew Nutshell Extract, Decarboxylated, Distilled	Rabbit	Irritant
m-phenylenebis(methylamine)	Rat	Corrosive
3,6-diazaoctanethylenediamin	Rabbit	Corrosive
2,4,6-tris(dimethylaminomethyl)phenol	Rabbit	Corrosive
Disodium oxide	similar compounds	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Aluminium hydroxide	Rabbit	No significant irritation
Cashew Nutshell Extract, Decarboxylated, Distilled	Rabbit	Corrosive
m-phenylenebis(methylamine)	Rabbit	Corrosive
3,6-diazaoctanethylenediamin	Rabbit	Corrosive
2,4,6-tris(dimethylaminomethyl)phenol	Rabbit	Corrosive
Disodium oxide	similar compounds	Corrosive

Skin Sensitisation

Name	Species	Value
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Aluminium hydroxide	Guinea pig	Not classified
Cashew Nutshell Extract, Decarboxylated, Distilled	Multiple animal species	Sensitising
m-phenylenebis(methylamine)	Guinea pig	Sensitising
3,6-diazaoctanethylenediamin	Guinea pig	Sensitising
2,4,6-tris(dimethylaminomethyl)phenol	Guinea pig	Not classified

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
Cashew Nutshell Extract, Decarboxylated, Distilled	In Vitro	Not mutagenic
m-phenylenebis(methylamine)	In Vitro	Not mutagenic
m-phenylenebis(methylamine)	In vivo	Not mutagenic
2,4,6-tris(dimethylaminomethyl)phenol	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Aluminium hydroxide	Not specified.	Multiple animal species	Not carcinogenic

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test result	Exposure Duration
Aluminium hydroxide	Ingestion	Not classified for development	Rat	NOAEL 768 mg/kg/day	during organogenesis
Cashew Nutshell Extract, Decarboxylated, Distilled	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Cashew Nutshell Extract, Decarboxylated, Distilled	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	28 days
Cashew Nutshell Extract, Decarboxylated, Distilled	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
m-phenylenebis(methylamine)	Ingestion	Not classified for female reproduction	Rat	NOAEL 450 mg/kg/day	1 generation
m-phenylenebis(methylamine)	Ingestion	Not classified for male reproduction	Rat	NOAEL 450 mg/kg	1 generation
m-phenylenebis(methylamine)	Ingestion	Not classified for development	Rat	NOAEL 450 mg/kg/day	1 generation

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Cashew Nutshell Extract, Decarboxylated, Distilled	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
m-phenylenebis(methylamine)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for	Not available	NOAEL Not available	

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)			classification			
2,4,6-tris(dimethylaminomethyl) phenol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Disodium oxide	Inhalation	respiratory irritation	May cause respiratory irritation	Professional judgement	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Cashew Nutshell Extract, Decarboxylated, Distilled	Ingestion	hematopoietic system liver immune system respiratory system nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
m-phenylenebis(methylamine)	Ingestion	endocrine system blood bone marrow	Not classified	Rat	NOAEL 600 mg/kg/day	28 days
2,4,6-tris(dimethylaminomethyl) phenol	Dermal	skin liver nervous system auditory system hematopoietic system eyes	Not classified	Rat	NOAEL 125 mg/kg/day	28 days

Aspiration Hazard

For the component/components, either no data is currently available or the data is 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 agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
Aluminium hydroxide	21645-51-2	Green Algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Aluminium hydroxide	21645-51-2	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
Aluminium hydroxide	21645-51-2	Fish other	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Aluminium hydroxide	21645-51-2	Green Algae	Experimental	72 hours	No tox obs at lmt of water sol	100 mg/l
Cashew Nutshell Extract, Decarboxylated, Distilled	8007-24-7	Water flea	Experimental	48 hours	Effect Level 50%	40.46 mg/l
Cashew Nutshell Extract, Decarboxylated, Distilled	8007-24-7	Green Algae	Experimental	72 hours	Effect Level 50%	5.82 mg/l
Cashew Nutshell Extract, Decarboxylated,	8007-24-7	Sheepshead Minnow	Experimental	96 hours	Lethal Level 50%	>1,000 mg/l

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Distilled						
Cashew Nutshell Extract, Decarboxylated, Distilled	8007-24-7	Green Algae	Experimental	72 hours	No obs Effect Level	1 mg/l
Amido Amine Polyether Polymer	Trade Secret		Data not available or insufficient for classification			
Toluene-4-sulphonic acid	104-15-4	Green Algae	Estimated	72 hours	EC50	73 mg/l
Toluene-4-sulphonic acid	104-15-4	Golden Orfe	Experimental	96 hours	LC50	>325 mg/l
Toluene-4-sulphonic acid	104-15-4	Water flea	Estimated	48 hours	EC50	>103 mg/l
Toluene-4-sulphonic acid	104-15-4	Green Algae	Estimated	72 hours	NOEC	44.8 mg/l
3-morpholinopropylamine	123-00-2		Data not available or insufficient for classification			
m-phenylenebis(methylamine)	1477-55-0	Green Algae	Experimental	72 hours	EC50	28 mg/l
m-phenylenebis(methylamine)	1477-55-0	Water flea	Experimental	48 hours	EC50	15.2 mg/l
m-phenylenebis(methylamine)	1477-55-0	Ricefish	Experimental	96 hours	LC50	87.6 mg/l
m-phenylenebis(methylamine)	1477-55-0	Green Algae	Experimental	72 hours	NOEC	9.8 mg/l
m-phenylenebis(methylamine)	1477-55-0	Water flea	Experimental	21 days	NOEC	4.7 mg/l
3,6-diazaoctanethylenediamine	112-24-3	Green Algae	Experimental	72 hours	EC50	27.4 mg/l
3,6-diazaoctanethylenediamine	112-24-3	Water flea	Experimental	48 hours	EC50	37.4 mg/l
3,6-diazaoctanethylenediamine	112-24-3	Guppy	Experimental	96 hours	LC50	570 mg/l
3,6-diazaoctanethylenediamine	112-24-3	Water flea	Experimental	21 days	NOEC	2.86 mg/l
3,6-diazaoctanethylenediamine	112-24-3	Green Algae	Experimental	72 hours	NOEC	0.468 mg/l
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	Green algae	Experimental	72 hours	EC50	84 mg/l
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	Common Carp	Experimental	96 hours	LC50	175 mg/l
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	Grass Shrimp	Experimental	96 hours	LC50	718 mg/l
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	Green algae	Experimental	72 hours	NOEC	6.25 mg/l
Disodium oxide	1313-59-3		Data not available or insufficient for classification			

12.2. Persistence and degradability

3M Scotchcast Electrical Insulating Resin 4 GS Part B

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Aluminium hydroxide	21645-51-2	Data not availbl-insufficient			N/A	
Cashew Nutshell Extract, Decarboxylated, Distilled	8007-24-7	Experimental Biodegradation	28 days	BOD	83.8 % BOD/ThBOD	OECD 301F - Manometric respirometry
Amido Amine Polyether Polymer	Trade Secret	Data not availbl-insufficient			N/A	
Toluene-4-sulphonic acid	104-15-4	Experimental Biodegradation	21 days	BOD	93 % BOD/ThBOD	OECD 301C - MITI test (I)
3-morpholinopropylamine	123-00-2	Estimated Photolysis		Photolytic half-life (in air)	2.1 hours (t 1/2)	Other methods
m-phenylenebis(methylamine)	1477-55-0	Experimental Biodegradation	28 days	CO2 evolution	49 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
3,6-diazaoctanethylenediamin	112-24-3	Experimental Biodegradation	20 days	BOD	0 % BOD/ThBOD	OECD 301D - Closed bottle test
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	Experimental Biodegradation	28 days	BOD	4 % weight	OECD 301D - Closed bottle test
Disodium oxide	1313-59-3	Data not availbl-insufficient			N/A	

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Aluminium hydroxide	21645-51-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Cashew Nutshell Extract, Decarboxylated, Distilled	8007-24-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Amido Amine Polyether Polymer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Toluene-4-sulphonic acid	104-15-4	Experimental Bioconcentration		Log Kow	0.93	Other methods
3-morpholinopropylamine	123-00-2	Estimated Bioconcentration		Log Kow	-0.84	Estimated: Octanol-water partition coefficient
m-phenylenebis(methylamine)	1477-55-0	Experimental BCF-Carp	42 days	Bioaccumulation factor	<2.7	OECD 305E - Bioaccumulation flow-through fish test
3,6-diazaoctanethylenediamin	112-24-3	Experimental BCF-Carp	42 days	Bioaccumulation factor	<5.0	OECD 305E - Bioaccumulation flow-through fish test
2,4,6-tris(dimethylaminomethyl)phenol	90-72-2	Experimental Bioconcentration		Log Kow	-0.66	Other methods
Disodium oxide	1313-59-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil

Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

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

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances

EU waste code (product container after use)

20 01 27* Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

ADR: UN2735; AMINES, LIQUID, CORROSIVE, N.O.S., (3-MORPHOLINO PROPYL AMINE); 8; II; (E); C7

IATA: FORBIDDEN: NOT ALLOWED FOR AIR FREIGHT

IMDG: UN2735; AMINES, LIQUID, CORROSIVE, N.O.S., (3-MORPHOLINO PROPYL AMINE); 8; II; EMS: FA, SB

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.2. Chemical Safety Assessment**

A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information**List of relevant H statements**

EUH014	Reacts violently with water.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.

H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Revision information:

Label: CLP Classification information was modified.

Section 3: Composition/ Information of ingredients table information was modified.

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

Section 8: Occupational exposure limit table information was modified.

OEL Reg Agency Desc information was modified.

Section 8: Respiratory protection - recommended respirators information information was modified.

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

Section 10: Conditions to avoid physical property information was modified.

Section 10: Materials to avoid physical property information was modified.

Section 14: Transportation classification information was modified.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

3M United Kingdom MSDSs are available at www.3M.com/uk



Safety Data Sheet

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Revision date: 27/10/2022

Version number: 3.00
Supersedes date: 20/10/2022

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

3M Scotchcast Electrical Insulating Resin 4 GS Part A

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Resin

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.

CLASSIFICATION:

Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315

Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319

Skin Sensitization, Category 1 - Skin Sens. 1; H317

Hazardous to the Aquatic Environment (Acute), Category 1 - Aquatic Acute 1; H400

Hazardous to the Aquatic Environment (Chronic), Category 1 - Aquatic Chronic 1; H410

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

WARNING.

Symbols

GHS07 (Exclamation mark) | GHS09 (Environment) |

Pictograms



Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	216-823-5	45 - 55
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	500-006-8	45 - 55

HAZARD STATEMENTS:

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H410	Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P273	Avoid release to the environment.
P280E	Wear protective gloves.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P391	Collect spillage.

2.3. Other hazards

None known.

This material does not contain any substances that are assessed to be a PBT or vPvB

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Ingredient	Identifier(s)	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
bis-[4-(2,3-epoxipropoxy)phenyl]propane	(CAS-No.) 1675-54-3 (EC-No.) 216-823-5 (REACH-No.) 01-2119456619-26	45 - 55	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	(CAS-No.) 9003-36-5 (EC-No.) 500-006-8 (REACH-No.) 01-2119454392-40	45 - 55	Skin Irrit. 2, H315 Skin Sens. 1A, H317 Aquatic Acute 1, H400,M=1 Aquatic Chronic 1, H410,M=1

Please see section 16 for the full text of any H statements referred to in this section

Specific Concentration Limits

Ingredient	Identifier(s)	Specific Concentration Limits
bis-[4-(2,3-epoxipropoxy)phenyl]propane	(CAS-No.) 1675-54-3 (EC-No.) 216-823-5	(C >= 5%) Skin Irrit. 2, H315 (C >= 5%) Eye Irrit. 2, H319

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

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

The most important symptoms and effects based on the CLP classification include:

Irritation to the skin (localized redness, swelling, itching, and dryness). Allergic skin reaction (redness, swelling, blistering, and itching). Serious irritation to the eyes (significant redness, swelling, pain, tearing, and impaired vision).

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

Not applicable.

SECTION 5: Fire-fighting measures

5.1. 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

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products**Substance**

Aldehydes.
Carbon monoxide
Carbon dioxide.
Toxic Vapour/Gas

Condition

During combustion.
During combustion.
During combustion.
During combustion.

5.3. Advice 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 vapours, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

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 authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

For industrial/occupational use only. Not for consumer sale or use. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from strong bases. Store away from oxidising agents. Store away from amines.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

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 Safety Data Sheet.

Biological limit values

No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

8.2. Exposure controls**8.2.1. Engineering controls**

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

8.2.2. Personal protective equipment (PPE)**Eye/face protection**

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

Indirect vented goggles.

Applicable Norms/Standards

Use eye protection conforming to EN 166

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:

Material	Thickness (mm)	Breakthrough Time
Polymer laminate	No data available	No data available

Applicable Norms/Standards

Use gloves tested to EN 374

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 vapours

For questions about suitability for a specific application, consult with your respirator manufacturer.

Applicable Norms/Standards

Use a respirator conforming to EN 140 or EN 136: filter type A

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Colour	Blue
Odor	Weak Odor
Odour threshold	<i>No data available.</i>
Melting point/freezing point	-15 - 5 °C
Boiling point/boiling range	> 100 °C
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Flash point	240 °C [<i>Test Method:</i> Closed Cup]
Autoignition temperature	<i>No data available.</i>
Decomposition temperature	> 300 °C
pH	<i>substance/mixture is non-polar/aprotic</i>
Kinematic Viscosity	3,846 mm ² /sec
Water solubility	Slight (less than 10%)
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Vapour pressure	< 1.3 Pa
Density	1.17 kg/l
Relative density	1.17
Relative Vapor Density	<i>Not applicable.</i>

9.2. Other information**9.2.2 Other safety characteristics**

EU Volatile Organic Compounds	<i>No data available.</i>
Evaporation rate	<i>Not applicable.</i>
Percent volatile	Nil

SECTION 10: Stability and reactivity**10.1 Reactivity**

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

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerisation may occur. Quantities of more than 0.5kg polymerise in presence of aliphatic amines generating a lot of heat

10.4 Conditions to avoid

Sparks and/or flames.

10.5 Incompatible materials

Amines.
Strong acids.
Strong bases.
Strong oxidising agents.

Avoid use of electrical tracing

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 agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from internal hazard assessments.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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 localised 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

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 diarrhoea.

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
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Dermal	Rat	LD50 > 1,600 mg/kg
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Ingestion	Rat	LD50 > 1,000 mg/kg
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Dermal	Rat	LD50 > 2,000 mg/kg
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Rabbit	Mild irritant
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value

3M Scotchcast Electrical Insulating Resin 4 GS Part A

bis-[4-(2,3-epoxipropoxy)phenyl]propane	Rabbit	Moderate irritant
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Human and animal	Sensitising
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Multiple animal species	Sensitising

Respiratory Sensitisation

Name	Species	Value
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
bis-[4-(2,3-epoxipropoxy)phenyl]propane	In vivo	Not mutagenic
bis-[4-(2,3-epoxipropoxy)phenyl]propane	In Vitro	Some positive data exist, but the data are not sufficient for classification
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	In vivo	Not mutagenic
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
bis-[4-(2,3-epoxipropoxy)phenyl]propane	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
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure
------	-------	-----------------	-------	---------	-------------	----------

						Duration
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
bis-[4-(2,3-epoxipropoxy)phenyl]propane	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
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Ingestion	heart endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system liver immune system nervous system eyes kidney and/or bladder respiratory system vascular system	Not classified	Rat	NOAEL 250 mg/kg/day	13 weeks

Aspiration Hazard

For the component/components, either no data is currently available or the data is 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.

11.2. Information on other hazards

This material does not contain any substances that are assessed to be an endocrine disruptor for human health.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Activated sludge	Estimated	3 hours	IC50	>100 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Rainbow trout	Estimated	96 hours	LC50	2 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Water flea	Estimated	48 hours	EC50	1.8 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Green algae	Experimental	72 hours	EC50	>11 mg/l

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bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Green algae	Experimental	72 hours	NOEC	4.2 mg/l
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Water flea	Experimental	21 days	NOEC	0.3 mg/l
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	Green algae	Experimental	72 hours	ErC50	>1.8 mg/l
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	Rainbow trout	Experimental	96 hours	LC50	0.55 mg/l
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	Water flea	Experimental	48 hours	EC50	1.6 mg/l
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	Water flea	Analogous Compound	21 days	NOEC	0.3 mg/l
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	Activated sludge	Analogous Compound	3 hours	IC50	>100 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Experimental Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Experimental Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	Experimental Biodegradation	28 days	BOD	0 %BOD/ThO D	EC C.4.E Closed Bottle Test
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	Analogous Compound Hydrolysis		Hydrolytic half-life (pH 7)	86 hours (t 1/2)	OECD 111 Hydrolysis function of pH

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Experimental Bioconcentration		Log Kow	3.242	
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	Experimental Bioconcentration		Log Kow	≤3.6	OECD 117 log Kow HPLC method

12.4. Mobility in soil

Material	Cas No.	Test type	Study Type	Test result	Protocol
Formaldehyde, oligomeric	9003-36-5	Experimental	Koc	4,460 l/kg	OECD 121 Estim. of Koc by

reaction products with 1-chloro-2,3-epoxypropane and phenol		Mobility in Soil			HPLC
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12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

12.6. Endocrine disrupting properties

This material does not contain any substances that are assessed to be an endocrine disruptor for environmental effects

12.7. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

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

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

08 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances

EU waste code (product container after use)

20 01 27* Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

	Ground Transport (ADR)	Air Transport (IATA)	Marine Transport (IMDG)
14.1 UN number or ID number	UN3082	UN3082	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(EPOXY RESIN; EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(EPOXY RESIN; EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(EPOXY RESIN; EPICHLOROHYDRIN-PHENOL-FORMALDEHYDE RESIN)

14.3 Transport hazard class(es)	9	9	9
14.4 Packing group	III	III	III
14.5 Environmental hazards	Environmentally Hazardous	Not applicable	Marine Pollutant
14.6 Special precautions for user	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.	Please refer to the other sections of the SDS for further information.
14.7 Marine Transport in bulk according to IMO instruments	No data available.	No data available.	No data available.
Control Temperature	No data available.	No data available.	No data available.
Emergency Temperature	No data available.	No data available.	No data available.
ADR Classification Code	M6	Not applicable.	Not applicable.
IMDG Segregation Code	Not applicable.	Not applicable.	NONE

Please contact the address or phone number listed on the first page of the SDS for additional information on the transport/shipment of the material by rail (RID) or inland waterways (ADN).

SECTION 15: Regulatory information

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

Carcinogenicity

<u>Ingredient</u>	<u>CAS Nbr</u>	<u>Classification</u>	<u>Regulation</u>
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	Gr. 3: Not classifiable	International Agency for Research on Cancer

Restrictions on the manufacture, placing on the market and use:

The following substance(s) contained in this product is/are subject through Annex XVII of REACH regulation to restrictions on the manufacture, placing on the market and use when present in certain dangerous substances, mixtures and articles. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3
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Global inventory status

Contact 3M for more information. 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.

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Seveso hazard categories, Annex 1, Part 1

Hazard Categories	Qualifying quantity (tonnes) for the application of	
	Lower-tier requirements	Upper-tier requirements
E1 Hazardous to the Aquatic environment	100	200

Seveso named dangerous substances, Annex 1, Part 2
None

Regulation (EU) No 649/2012

No chemicals listed

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information**List of relevant H statements**

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Revision information:

Section 14 Classification Code – Regulation Data information was modified.
Section 14 Hazard Class + Sub Risk – Regulation Data information was modified.
Section 14 Hazardous/Not Hazardous for Transportation information was modified.
Section 14 Other Dangerous Goods – Regulation Data information was modified.
Section 14 Packing Group – Regulation Data information was modified.
Section 14 Proper Shipping Name information was modified.
Section 14 Segregation – Regulation Data information was modified.
Section 14 UN Number Column data information was modified.
Section 14: Transportation classification information was deleted.

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. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

3M United Kingdom MSDSs are available at www.3M.com/uk