Safety Data Sheet

Document group:	41-8669-8	**Version number:**	1.01
Issue Date:	12/06/2025	**Supersedes date:**	11/02/2025

This Safety Data Sheet has been prepared in accordance with the South African National Standard SANS 10234:2008.

IDENTIFICATION

1.1. Product identifier
3M Scotchcast Electrical Insulating Resin 4GS - 41-8669-8 Kit

1.2. Recommended use and restrictions on use
Resin

1.3. Supplier's details

Address:	3M South Africa (Pty) Ltd, Private Bag X926, Rivonia 2128
Telephone:	011 806 2000
E Mail:	Not available.
Website:	www.3m.co.za

1.4. Emergency telephone number
011 806 2000

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

TRANSPORT INFORMATION

Compliance is required to South African Transport Information Road Traffic Act & Regulations and Railroad regulations, IATA Standards for airfreight and Maritime standards for ocean freight.

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 South Africa SDSs are available at www.3m.co.za

Safety Data Sheet

Document group:	38-7384-1	**Version number:**	1.00
Issue Date:	11/02/2025	**Supersedes date:**	Initial issue.

This Safety Data Sheet has been prepared in accordance with the South African National Standard SANS 10234:2008.

SECTION 1: Identification

1.1. Product identifier
3M Scotchcast Electrical Insulating Resin 4 GS Part A

1.2. Recommended use and restrictions on use

Recommended use
Electrical Resin, Resin

1.3. Supplier's details

Address:	3M South Africa (Pty) Ltd, Private Bag X926, Rivonia 2128
Telephone:	011 806 2000
E Mail:	Not available.
Website:	www.3m.co.za

1.4. Emergency telephone number
011 806 2000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Skin Corrosion/Irritation: Category 2.
Serious Eye Damage/Irritation: Category 2B.
Skin Sensitizer: Category 1A.
Acute Aquatic Toxicity: Category 1.
Chronic Aquatic Toxicity: Category 1.

2.2. Label elements

Signal word
Warning

Symbols
Exclamation mark |Environment |

Pictograms

HAZARD STATEMENTS:

H315	Causes skin irritation.
H320	Causes 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:

P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P391	Collect spillage.

2.3. Other hazards
None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Bisphenol A Diglycidyl Ether	1675-54-3	40 - 60
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	9003-36-5	40 - 60

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

Allergic skin reaction (redness, swelling, blistering, and itching).

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

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Toxic Vapor/Gas	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
Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS. 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.

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 in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial/occupational use only. Not for consumer sale or use. 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 oxidizing agents. Store away from amines.

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.

8.2. Exposure controls

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

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

Physical state	Liquid.
Colour	Blue
Odor	Weak Odor
Odour threshold	*No data available.*

pH	*Not applicable.*
Melting point/Freezing point	-15 - 5 ºC
Boiling point/Initial boiling point/Boiling range	> 100 ºC
Flash point	240 ºC [*Test Method:*Closed Cup]
Evaporation rate	*Not applicable.*
Flammability	Not applicable.
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	< 1,3 Pa
Relative Vapor Density	*Not applicable.*
Density	1,17 kg/l
Relative density	1,17
Water solubility	Slight (less than 10%)
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*No data available.*
Decomposition temperature	> 300 ºC
Kinematic Viscosity	3 846 mm²/sec
Volatile organic compounds (VOC)	*No data available.*
Percent volatile as Text	Nil
VOC less H2O & exempt solvents	*No data available.*

Particle Characteristics	*Not applicable.*

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

Substance	**Condition**
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation
Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

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

Eye contact
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
Bisphenol A Diglycidyl Ether	Dermal	Rat	LD50 > 1 600 mg/kg
Bisphenol A Diglycidyl Ether	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
Bisphenol A Diglycidyl Ether	Rabbit	Mild irritant
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
Bisphenol A Diglycidyl Ether	Rabbit	Moderate irritant
Formaldehyde, oligomeric reaction products with 1-chloro-2,3-epoxypropane and phenol	Rabbit	No significant irritation

Sensitization:

Skin Sensitisation

Name	Species	Value
Bisphenol A Diglycidyl Ether	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
Bisphenol A Diglycidyl Ether	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Bisphenol A Diglycidyl Ether	In vivo	Not mutagenic
Bisphenol A Diglycidyl Ether	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
Bisphenol A Diglycidyl Ether	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
Bisphenol A Diglycidyl Ether	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Bisphenol A Diglycidyl Ether	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Bisphenol A Diglycidyl Ether	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Bisphenol A Diglycidyl Ether	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
Bisphenol A Diglycidyl Ether	Dermal	liver	Not classified	Rat	NOAEL 1 000	2 years

					mg/kg/day	
Bisphenol A Diglycidyl Ether	Dermal	nervous system	Not classified	Rat	NOAEL 1 000 mg/kg/day	13 weeks
Bisphenol A Diglycidyl Ether	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 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 labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
GHS Acute 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 Nbr	Organism	Type	Exposure	Test endpoint	Test result
Bisphenol A Diglycidyl Ether	1675-54-3	Activated sludge	Estimated	3 hours	IC50	>100 mg/l
Bisphenol A Diglycidyl Ether	1675-54-3	Rainbow trout	Estimated	96 hours	LC50	2 mg/l
Bisphenol A Diglycidyl Ether	1675-54-3	Water flea	Estimated	48 hours	EC50	1,8 mg/l
Bisphenol A Diglycidyl Ether	1675-54-3	Green algae	Experimental	72 hours	EC50	>11 mg/l
Bisphenol A Diglycidyl Ether	1675-54-3	Green algae	Experimental	72 hours	NOEC	4,2 mg/l
Bisphenol A Diglycidyl Ether	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
Bisphenol A Diglycidyl Ether	1675-54-3	Experimental Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
Bisphenol A Diglycidyl Ether	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/ThOD	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 func of pH

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Bisphenol A Diglycidyl Ether	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
Please contact manufacturer for more details

12.5 Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1. Disposal methods
Product must only be disposed of by an authorized/permitted waste disposal contractor or incinerated in an industrial or commercial facility in the presence of a combustible material.

SECTION 14: Transport Information

Compliance is required to South African Transport Information Road Traffic Act & Regulations and Railroad regulations, IATA Standards for airfreight and Maritime standards for ocean freight.

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. All required components of this product are listed on the active portion of the TSCA Inventory.

SECTION 16: Other information

Revision information:
No revision 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 South Africa SDSs are available at www.3m.co.za

Safety Data Sheet

Document group:	38-7385-8	**Version number:**	1.00
Issue Date:	17/01/2025	**Supersedes date:**	Initial issue.

This Safety Data Sheet has been prepared in accordance with the South African National Standard SANS 10234:2008.

SECTION 1: Identification

1.1. Product identifier
3M Scotchcast Electrical Insulating Resin 4 GS Part B

1.2. Recommended use and restrictions on use

Recommended use
Electrical Resin, Resin

1.3. Supplier's details

Address:	3M South Africa (Pty) Ltd, Private Bag X926, Rivonia 2128
Telephone:	011 806 2000
E Mail:	Not available.
Website:	www.3m.co.za

1.4. Emergency telephone number
011 806 2000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Skin Corrosion/Irritation: Category 1B.
Serious Eye Damage/Irritation: Category 1.
Skin Sensitizer: Category 1A.
Acute Aquatic Toxicity: Category 3.
Chronic Aquatic Toxicity: Category 3.

2.2. Label elements

Signal word
Danger

Symbols
Corrosion |Exclamation mark |

Pictograms

HAZARD STATEMENTS:

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
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 CENTER or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

2.3. Other hazards

Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines. - May cause chemical gastrointestinal burns.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Aluminium hydroxide	21645-51-2	30 - 60
ALKYL PHENOL POLYAMINE	Trade Secret	10 - 30
Cashew Nutshell Extract, Decarboxylated, Distilled	8007-24-7	10 - 24
Amido Amine Polyether Polymer	Trade Secret	1 - 5
p-Toluenesulfonic acid	104-15-4	1 - 4
3-morpholinopropylamine	123-00-2	1 - 2.5
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	1 - 2
Triethylenetetramine	112-24-3	0.1 - 1.5
Tris(2,4,6-dimethylaminomonomethyl)phenol	90-72-2	0.1 - 1.5
Disodium oxide	1313-59-3	< 0.3

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Remove person to fresh air. If you feel unwell, get medical attention.

Skin contact
Immediately 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

Skin burns (localized redness, swelling, itching, intense pain, blistering, and tissue destruction). Allergic skin reaction (redness, swelling, blistering, and itching). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision).

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

SECTION 5: Fire-fighting measures

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

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
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. 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 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 in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

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
Triethylenetetramine	112-24-3	AIHA	TWA:6 mg/m3(1 ppm)	SKIN
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	ACGIH	Catalogic™	Danger of cutaneous absorption
Aluminum, insoluble compounds	21645-51-2	ACGIH	TWA(respirable fraction):1 mg/m3	A4: Not class. as human carcin
Aluminum, insoluble compounds	21645-51-2	South Africa RELs	TWA(as Al, respirable fraction)(8 hours):2 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles	21645-51-2	ACGIH	TWA(inhalable particulates):10 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles	21645-51-2	South Africa RELs	TWA(respirable fraction)(8 hours):5 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, respirable particles	21645-51-2	ACGIH	TWA(respirable particles):3 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, respirable particles	21645-51-2	South Africa RELs	TWA(8 hours):10 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
South Africa CLs : South Africa. Control Limits. Regulations for Hazardous Chemical Substances, Table 1
South Africa RELs : South Africa. Recommended Exposure Limits (RELs) Regulations for Hazardous Chemical Substances, Table 2
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure

Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Slurry
Colour	Yellow
Odor	Amine
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*No data available.*
Boiling point/Initial boiling point/Boiling range	*Not applicable.*
Flash point	> 100 ºC [*Test Method:*Closed Cup]
Evaporation rate	*Not applicable.*
Flammability	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Relative Vapor Density	*Not applicable.*
Density	1,5 kg/l

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.*
Autoignition temperature	*Not applicable.*
Decomposition temperature	> 200 ºC
Kinematic Viscosity	5 000 mm²/sec
Volatile organic compounds (VOC)	*No data available.*
Percent volatile as Text	Nil
VOC less H2O & exempt solvents	*No data available.*

Particle Characteristics	*Not applicable.*

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

Substance	**Condition**
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labelling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation
Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin contact
Corrosive (skin burns): Signs/symptoms may include localised 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
Gastrointestinal corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea; blood in the faeces and/or vomitus may also be seen.

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

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	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2,3 mg/l
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
p-Toluenesulfonic acid	Ingestion	Rat	LD50 1 410 mg/kg
p-Toluenesulfonic acid	Dermal	similar compounds	LD50 > 2 000 mg/kg
3-morpholinopropylamine	Dermal	Rabbit	LD50 2 220 mg/kg
3-morpholinopropylamine	Ingestion	Rat	LD50 1 791 mg/kg
m-Xylene-.alpha.alpha'.-diamine	Dermal	Rabbit	LD50 > 2 000 mg/kg
m-Xylene-.alpha.alpha'.-diamine	Inhalation-Dust/Mist (4 hours)	Rat	LC50 1,2 mg/l
m-Xylene-.alpha.alpha'.-diamine	Ingestion	Rat	LD50 980 mg/kg
Triethylenetetramine	Dermal	Rat	LD50 1 465 mg/kg
Triethylenetetramine	Ingestion	Rat	LD50 1 591 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
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
p-Toluenesulfonic acid	Rabbit	Corrosive
3-morpholinopropylamine	Rabbit	Corrosive
m-Xylene-.alpha.alpha'.-diamine	Rat	Corrosive
Triethylenetetramine	Rabbit	Corrosive
Tris(2,4,6-dimethylaminomonomethyl)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
p-Toluenesulfonic acid	similar compounds	Corrosive
3-morpholinopropylamine	Rabbit	Corrosive
m-Xylene-.alpha.alpha'.-diamine	Rabbit	Corrosive
Triethylenetetramine	Rabbit	Corrosive
Tris(2,4,6-dimethylaminomonomethyl)phenol	Rabbit	Corrosive
Disodium oxide	similar compounds	Corrosive

Sensitization:

Skin Sensitisation

Name	Species	Value
Aluminium hydroxide	Guinea pig	Not classified
Cashew Nutshell Extract, Decarboxylated, Distilled	Multiple animal species	Sensitising
p-Toluenesulfonic acid	Guinea pig	Not classified
m-Xylene-.alpha.alpha'.-diamine	Guinea pig	Sensitising
Triethylenetetramine	Guinea pig	Sensitising
Tris(2,4,6-dimethylaminomonomethyl)phenol	Guinea pig	Not classified

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
Cashew Nutshell Extract, Decarboxylated, Distilled	In Vitro	Not mutagenic
p-Toluenesulfonic acid	In Vitro	Not mutagenic
3-morpholinopropylamine	In Vitro	Not mutagenic
3-morpholinopropylamine	In vivo	Not mutagenic
m-Xylene-.alpha.alpha'.-diamine	In Vitro	Not mutagenic
m-Xylene-.alpha.alpha'.-diamine	In vivo	Not mutagenic
Triethylenetetramine	In vivo	Not mutagenic
Triethylenetetramine	In Vitro	Some positive data exist, but the data are not sufficient for classification
Tris(2,4,6-dimethylaminomonomethyl)phenol	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Aluminium hydroxide	Not specified.	Multiple animal species	Not carcinogenic
Triethylenetetramine	Dermal	Mouse	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
3-morpholinopropylamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 450 mg/kg/day	premating into lactation
3-morpholinopropylamine	Ingestion	Not classified for male reproduction	Rat	NOAEL 450 mg/kg/day	39 days
3-morpholinopropylamine	Ingestion	Not classified for development	Rat	NOAEL 450 mg/kg/day	premating into lactation
m-Xylene-.alpha.alpha'.-diamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 450 mg/kg/day	1 generation
m-Xylene-.alpha.alpha'.-diamine	Ingestion	Not classified for male reproduction	Rat	NOAEL 450 mg/kg	1 generation
m-Xylene-.alpha.alpha'.-diamine	Ingestion	Not classified for development	Rat	NOAEL 450 mg/kg/day	1 generation
Triethylenetetramine	Dermal	Not classified for development	Rabbit	NOAEL 125 mg/kg/day	during organogenesis
Triethylenetetramine	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	during organogenesis
Tris(2,4,6-dimethylaminomonomethyl)phenol	Ingestion	Not classified for male reproduction	Rat	NOAEL 150 mg/kg/day	2 generation
Tris(2,4,6-dimethylaminomonomethyl)phenol	Ingestion	Not classified for female reproduction	Rat	NOAEL 50 mg/kg/day	2 generation
Tris(2,4,6-dimethylaminomonomethyl)phenol	Ingestion	Not classified for development	Rabbit	NOAEL 15 mg/kg/day	during gestation

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	
p-Toluenesulfonic acid	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available.	
3-morpholinopropylamine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
m-Xylene-.alpha.alpha'.-diamine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Not available	NOAEL Not avaliable	
Triethylenetetramine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Tris(2,4,6-dimethylaminomonomethyl)phenol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	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
p-Toluenesulfonic acid	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
3-morpholinopropylamine	Ingestion	hematopoietic system | liver | immune system	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
3-morpholinopropylamine	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 125 mg/kg/day	28 days
3-morpholinopropylamine	Ingestion	heart | skin | endocrine system | bone, teeth, nails, and/or hair | muscles | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
m-Xylene-.alpha.alpha'.-diamine	Ingestion	endocrine system | blood | bone marrow	Not classified	Rat	NOAEL 600 mg/kg/day	28 days
Tris(2,4,6-dimethylaminomonomethyl)phenol	Dermal	skin	Not classified	Rat	NOAEL 25 mg/kg/day	4 weeks
Tris(2,4,6-dimethylaminomonomethyl)phenol	Dermal	liver | nervous system | auditory system | hematopoietic system | eyes	Not classified	Rat	NOAEL 125 mg/kg/day	4 weeks
Tris(2,4,6-dimethylaminomonomethyl)phenol	Ingestion	heart | endocrine system | hematopoietic system | liver | muscles | nervous system | kidney and/or bladder | respiratory system | vascular system | auditory system | skin | gastrointestinal tract | bone, teeth, nails, and/or hair | immune system | eyes	Not classified	Rat	NOAEL 150 mg/kg/day	90 days

Aspiration Hazard

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

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
GHS Acute 3: Harmful to aquatic life.

Chronic aquatic hazard:
GHS Chronic 3: Harmful to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Aluminium hydroxide	21645-51-2	Fish	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
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	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	100 mg/l
Cashew Nutshell Extract, Decarboxylated, Distilled	8007-24-7	Green algae	Experimental	72 hours	EL50	5,82 mg/l
Cashew Nutshell Extract, Decarboxylated, Distilled	8007-24-7	Sheepshead Minnow	Experimental	96 hours	LL50	>1 000 mg/l
Cashew Nutshell Extract, Decarboxylated, Distilled	8007-24-7	Water flea	Experimental	48 hours	EL50	40,46 mg/l
Cashew Nutshell Extract, Decarboxylated, Distilled	8007-24-7	Green algae	Experimental	72 hours	NOEL	1 mg/l
Amido Amine Polyether Polymer	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
p-Toluenesulfonic acid	104-15-4	Green algae	Estimated	72 hours	EC50	73 mg/l
p-Toluenesulfonic acid	104-15-4	Water flea	Estimated	48 hours	EC50	>103 mg/l
p-Toluenesulfonic acid	104-15-4	Activated sludge	Experimental	3 hours	EC10	240 mg/l
p-Toluenesulfonic acid	104-15-4	Anaerobic sludge	Experimental	24 hours	NOEC	>1 625 mg/l
p-Toluenesulfonic acid	104-15-4	Golden Orfe	Experimental	96 hours	LC50	>325 mg/l
p-Toluenesulfonic acid	104-15-4	Green algae	Estimated	72 hours	NOEC	44,8 mg/l
3-morpholinopropylamine	123-00-2	Green algae	Experimental	72 hours	EC50	>100 mg/l
3-	123-00-2	Water flea	Experimental	48 hours	EC50	>100 mg/l

morpholinopropylamine						
3-morpholinopropylamine	123-00-2	Green algae	Experimental	72 hours	EC10	100 mg/l
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Activated sludge	Experimental	30 minutes	EC50	>1 000 mg/l
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Bacteria	Experimental	16 hours	EC10	24 mg/l
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Green algae	Experimental	72 hours	ErC50	28 mg/l
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Medaka	Experimental	96 hours	LC50	87,6 mg/l
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Water flea	Experimental	48 hours	EC50	15,2 mg/l
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Green algae	Experimental	72 hours	NOEC	9,8 mg/l
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Water flea	Experimental	21 days	NOEC	4,7 mg/l
Triethylenetetramine	112-24-3	Green algae	Experimental	72 hours	EC50	27,4 mg/l
Triethylenetetramine	112-24-3	Guppy	Experimental	96 hours	LC50	570 mg/l
Triethylenetetramine	112-24-3	Water flea	Experimental	48 hours	EC50	37,4 mg/l
Triethylenetetramine	112-24-3	Green algae	Experimental	72 hours	NOEC	0,468 mg/l
Triethylenetetramine	112-24-3	Water flea	Experimental	21 days	NOEC	2,86 mg/l
Tris(2,4,6-dimethylaminomonomethyl)phenol	90-72-2	N/A	Experimental	96 hours	LC50	718 mg/l
Tris(2,4,6-dimethylaminomonomethyl)phenol	90-72-2	Common Carp	Experimental	96 hours	LC50	>100 mg/l
Tris(2,4,6-dimethylaminomonomethyl)phenol	90-72-2	Green algae	Experimental	72 hours	EC50	46,7 mg/l
Tris(2,4,6-dimethylaminomonomethyl)phenol	90-72-2	Water flea	Experimental	48 hours	EC50	>100 mg/l
Tris(2,4,6-dimethylaminomonomethyl)phenol	90-72-2	Green algae	Experimental	72 hours	NOEC	6,44 mg/l
Disodium oxide	1313-59-3	N/A	Data not available or insufficient for classification	N/A	N/A	N/A

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Aluminium hydroxide	21645-51-2	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Cashew Nutshell Extract, Decarboxylated,	8007-24-7	Experimental Biodegradation	28 days	BOD	83.8 %BOD/ThOD	OECD 301F - Manometric respirometry

Distilled						
Amido Amine Polyether Polymer	Trade Secret	Data not availbl-insufficient	N/A	N/A	N/A	N/A
p-Toluenesulfonic acid	104-15-4	Experimental Biodegradation	21 days	BOD	93 %BOD/ThOD	OECD 301C - MITI test (I)
3-morpholinopropylamine	123-00-2	Experimental Biodegradation	28 days	CO2 evolution	6.2 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Experimental Biodegradation	28 days	CO2 evolution	49 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Experimental Aquatic Inherent Biodegrad.	28 days	BOD	22 %BOD/ThOD	OECD 302C - Modified MITI (II)
Triethylenetetramine	112-24-3	Experimental Biodegradation	20 days	BOD	0 %BOD/ThOD	OECD 301D - Closed bottle test
Tris(2,4,6-dimethylaminomonomethyl)phenol	90-72-2	Experimental Biodegradation	28 days	BOD	4 %BOD/ThOD	OECD 301D - Closed bottle test
Disodium oxide	1313-59-3	Data not availbl-insufficient	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	CAS Nbr	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
p-Toluenesulfonic acid	104-15-4	Experimental Bioconcentration		Log Kow	0.93	
3-morpholinopropylamine	123-00-2	Experimental Bioconcentration		Log Kow	-1.076	OECD 107 log Kow shke flsk mtd
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Experimental BCF - Fish	42 days	Bioaccumulation factor	<2.7	OECD305-Bioconcentration
m-Xylene-.alpha.alpha'.-diamine	1477-55-0	Extrapolated Bioconcentration		Log Kow	0.18	OECD 107 log Kow shke flsk mtd
Triethylenetetramine	112-24-3	Experimental BCF - Fish	42 days	Bioaccumulation factor	<5.0	OECD305-Bioconcentration
Tris(2,4,6-dimethylaminomonomethyl)phenol	90-72-2	Experimental Bioconcentration		Log Kow	-0.66	830.7550 Part.Coef Shake Flask
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 Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product must only be disposed of by an authorized/permitted waste disposal contractor or incinerated in an industrial or commercial facility in the presence of a combustible material.

SECTION 14: Transport Information

Compliance is required to South African Transport Information Road Traffic Act & Regulations and Railroad regulations, IATA Standards for airfreight and Maritime standards for ocean freight.

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. All required components of this product are listed on the active portion of the TSCA Inventory.

SECTION 16: Other information

Revision information:
No revision 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 South Africa SDSs are available at www.3m.co.za