Safety Data Sheet

Document group:	28-8293-4	**Version number:**	2.00
Issue Date:	11/10/2021	**Supersedes date:**	28/09/2016

This Safety Data Sheet has been prepared in accordance with the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (Safe Work Australia, December 2011)

IDENTIFICATION:

1.1. Product identifier
3M™ Scotchcast™ Flame-Retardant Compound 2131 (Parts A and B)

Product Identification Numbers
80-6114-6825-9 80-6114-6826-7

1.2. Recommended use and restrictions on use

Recommended use
Electrical resin.

For Industrial or Professional use only.

1.3. Supplier's details

Address:	3M Australia - Building A, 1 Rivett Road, North Ryde NSW 2113
Telephone:	136 136
E Mail:	productinfo.au@mmm.com
Website:	www.3m.com.au

1.4. Emergency telephone number
Company Emergency Hotline:EMERGENCY: 1800 097 146 (Australia only)

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 SDSs for components of this product are:

28-7650-6, 28-7666-2

One or more components of this KIT is classified as a hazardous chemical according to the Model Work Health and Safety Regulations, 2011, in accordance with applicable State and Territory legislation.

TRANSPORT INFORMATION

This KIT and its components are NOT classified as Dangerous Goods.

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 Safety 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.
Greenguard ® is a United States based program. The 'Low VOC' reference related to United States Federal and State regulations exemptions for some solvents.

3M Australia SDSs are available at www.3m.com.au

Safety Data Sheet

Document group:	28-7650-6	**Version number:**	3.01
Issue Date:	02/07/2023	**Supersedes date:**	11/10/2021

This Safety Data Sheet has been prepared in accordance with the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (Safe Work Australia, December 2011)

SECTION 1: Identification

1.1. Product identifier
3M™ Scotchcast™ Flame-Retardant Compound 2131 (Part A)

Product Identification Numbers
80-6114-2633-1 80-6114-6840-8 80-6116-1242-7

1.2. Recommended use and restrictions on use

Recommended use
Electrical, Part A of two part electrical resin

For Industrial or Professional use only.

1.3. Supplier's details
Address: 3M Australia - Building A, 1 Rivett Road, North Ryde NSW 2113
Telephone: 136 136
E Mail: productinfo.au@mmm.com
Website: www.3m.com.au

1.4. Emergency telephone number
EMERGENCY: 1800 097 146 (Australia only)

SECTION 2: Hazard identification

This product is classified as a hazardous chemical according to the Model Work Health and Safety Regulations, 2011, in accordance with applicable State and Territory legislation.

Refer to Section 14 of this Safety Data Sheets for product Dangerous Goods Classification.

2.1. Classification of the substance or mixture
Skin Corrosion/Irritation: Category 2.
Serious Eye Damage/Irritation: Category 2.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
Specific Target Organ Toxicity (repeated exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3

2.2. Label elements
The label elements below were prepared in accordance with the Code of Practice on Preparation of Safety Data Sheets for Hazardous Chemicals (Safe Work Australia, December 2011). This information may be different from the actual product label.

Signal word
Danger

Symbols
Health Hazard |

Pictograms

Hazard statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H372	Causes damage to organs through prolonged or repeated exposure: respiratory system.

Precautionary statements

Prevention:

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P284	Wear respiratory protection.

Response:

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTRE or doctor/physician if you feel unwell.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313	IF eye irritation persists: Get medical advice/attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Storage:

P405	Store locked up.

Disposal:

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

2.3. Other assigned/identified product hazards
Persons previously sensitised to isocyanates may develop a cross-sensitisation reaction to other isocyanates.

2.4. Other hazards which do not result in classification
None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Weight
Polyether-hydrocarbon-urethane polymer	154517-54-1	35 - 45
Diphenylmethane-4,4'-diisocyanate	101-68-8	25 - 35
1,1'-Methylenebis[isocyanatobenzene], homopolymer	39310-05-9	5 - 15
Diundecyl phthalate	3648-20-2	< 15
diundecyl phthalatye, branched and linear	85507-79-5	< 15
Methylenediphenyl diisocyanate	26447-40-5	< 2
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	1843-03-4	< 1

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. Remove contact lenses if easy to do. Continue rinsing. 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

Irritating to the respiratory tract (coughing, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain). Allergic respiratory reaction (difficulty breathing, wheezing, cough, and tightness of chest). Allergic skin reaction (redness, swelling, blistering, and itching). Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

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

SECTION 5: Fire-fighting measures

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

5.2. Special hazards arising from the substance or mixture
Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Hydrogen cyanide.	During combustion.
Oxides of nitrogen.	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. Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. 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 container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. 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. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial/occupational use only. Not for consumer sale or use. Do not use in a confined area with minimal air exchange. 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.

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep cool. Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Protect from sunlight. Store away from heat. Store away from strong bases. Store away from areas where product may come into contact with food or pharmaceuticals. Store in a dry place.

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
Diphenylmethane-4,4'-diisocyanate	101-68-8	ACGIH	TWA:0.005 ppm	
Diphenylmethane-4,4'-diisocyanate	101-68-8	Australia OELs	TWA(8 hours):0.02 mg/m3;STEL(15 minutes):0.07 mg/m3	
Free isocyanates	26447-40-5	Australia OELs	TWA(as NCO)(8 hours):0.02 mg/m3;STEL(as NCO)(15 minutes):0.07 mg/m3	
Free isocyanates	39310-05-9	Australia OELs	TWA(as NCO)(8 hours):0.02 mg/m3;STEL(as NCO)(15 minutes):0.07 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
Australia OELs : Australia. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment
CMRG : Chemical Manufacturer's Recommended Guidelines
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling
Sen: Sensitiser
Sk: Absorption through the skin may be a significant source of exposure.

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.

Select and use eye protection in accordance with AS/NZS 1336. Eye protection should comply with the performance specifications of AS/NZS 1337.

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

Select and use gloves according to AS/NZ 2161.

Respiratory protection

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

respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece supplied-air respirator.

For questions about suitability for a specific application, consult with your respirator manufacturer.
Select and use respirators according to AS/NZS 1715. Respirators should comply with AS/NZS 1716 performance specifications. For information about respirators, call 3M on 1800 024 464.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Colour	Light Straw
Odour	Pungent Odour
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*Not applicable.*
Boiling point/Initial boiling point/Boiling range	>=148.9 ºC
Flash point	>=148.9 ºC [*Test Method:*Closed Cup]
Evaporation rate	*No data available.*
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*No data available.*
Vapor Density and/or Relative Vapor Density	*No data available.*
Density	*No data available.*
Relative density	1.08 [*Ref Std:*WATER=1]
Water solubility	Nil
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
Viscosity/Kinematic Viscosity	700 - 900 mPa-s
Volatile organic compounds (VOC)	*No data available.*
Percent volatile	*No data available.*
VOC less H2O & exempt solvents	10.5 g/l
Average particle size	*No data available.*
Bulk density	*No data available.*
Molecular weight	*No data available.*
Softening point	*No data available.*

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3. Conditions to avoid
None known.

10.4. Possibility of hazardous reactions

Hazardous polymerisation may occur.

10.5 Incompatible materials
Strong bases.
Alcohols.
Water

10.6 Hazardous decomposition products

Substance	Condition
None known.	

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. Allergic respiratory reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. May cause additional health effects (see below).

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
Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

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

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
Respiratory effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure.

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

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

Acute Toxicity

Name	Route	Species	Value

Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Polyether-hydrocarbon-urethane polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Polyether-hydrocarbon-urethane polymer	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Diphenylmethane-4,4'-diisocyanate	Dermal	Rabbit	LD50 > 5,000 mg/kg
Diphenylmethane-4,4'-diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
Diphenylmethane-4,4'-diisocyanate	Ingestion	Rat	LD50 31,600 mg/kg
Diundecyl phthalate	Dermal	Rabbit	LD50 > 7,900 mg/kg
Diundecyl phthalate	Ingestion	Rat	LD50 > 15,000 mg/kg
diundecyl phthalatye, branched and linear	Dermal	Rat	LD50 > 2,000 mg/kg
diundecyl phthalatye, branched and linear	Ingestion	Rat	LD50 > 15,800 mg/kg
1,1'-Methylenebis[isocyanatobenzene], homopolymer	Dermal	Rabbit	LD50 > 5,000 mg/kg
1,1'-Methylenebis[isocyanatobenzene], homopolymer	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
1,1'-Methylenebis[isocyanatobenzene], homopolymer	Ingestion	Rat	LD50 31,600 mg/kg
Methylenediphenyl diisocyanate	Dermal	Rabbit	LD50 > 5,000 mg/kg
Methylenediphenyl diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
Methylenediphenyl diisocyanate	Ingestion	Rat	LD50 31,600 mg/kg
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	Dermal	Rat	LD50 > 2,000 mg/kg
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Diphenylmethane-4,4'-diisocyanate	official classification	Irritant
diundecyl phthalatye, branched and linear	Rabbit	No significant irritation
1,1'-Methylenebis[isocyanatobenzene], homopolymer	official classification	Irritant
Methylenediphenyl diisocyanate	official classification	Irritant
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	In vitro data	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Diphenylmethane-4,4'-diisocyanate	official classification	Severe irritant
diundecyl phthalatye, branched and linear	Rabbit	Mild irritant
1,1'-Methylenebis[isocyanatobenzene], homopolymer	official classification	Severe irritant
Methylenediphenyl diisocyanate	official classification	Severe irritant
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	In vitro data	No significant irritation

Skin Sensitisation

Name	Species	Value
Diphenylmethane-4,4'-diisocyanate	official classification	Sensitising
diundecyl phthalatye, branched and linear	Human	Not classified
1,1'-Methylenebis[isocyanatobenzene], homopolymer	official classification	Sensitising
Methylenediphenyl diisocyanate	official classification	Sensitising
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	Mouse	Sensitising

Respiratory Sensitisation

Name	Species	Value
Diphenylmethane-4,4'-diisocyanate	Human	Sensitising
1,1'-Methylenebis[isocyanatobenzene], homopolymer	Human	Sensitising
Methylenediphenyl diisocyanate	Human	Sensitising

Germ Cell Mutagenicity

Name	Route	Value
Diphenylmethane-4,4'-diisocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification
diundecyl phthalatye, branched and linear	In Vitro	Not mutagenic
1,1'-Methylenebis[isocyanatobenzene], homopolymer	In Vitro	Some positive data exist, but the data are not sufficient for classification
Methylenediphenyl diisocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Diphenylmethane-4,4'-diisocyanate	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
1,1'-Methylenebis[isocyanatobenzene], homopolymer	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Methylenediphenyl diisocyanate	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Diphenylmethane-4,4'-diisocyanate	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
diundecyl phthalatye, branched and linear	Ingestion	Not classified for male reproduction	Rat	NOAEL 2,100 mg/kg/day	21 days
diundecyl phthalatye, branched and linear	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
1,1'-Methylenebis[isocyanatobenzene], homopolymer	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
Methylenediphenyl	Inhalation	Not classified for	Rat	NOAEL	during

diisocyanate		development		0.004 mg/l	organogenesis

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Diphenylmethane-4,4'-diisocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
1,1'-Methylenebis[isocyanatobenzene], homopolymer	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
Methylenediphenyl diisocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Diphenylmethane-4,4'-diisocyanate	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
diundecyl phthalatye, branched and linear	Ingestion	liver	Not classified	Rat	NOAEL 2,100 mg/kg/day	21 days
1,1'-Methylenebis[isocyanatobenzene], homopolymer	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
Methylenediphenyl diisocyanate	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	Ingestion	endocrine system | hematopoietic system | liver | eyes	Not classified	Rat	NOAEL 392 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.

Exposure Levels
Refer Section **8.1 Control Parameters** of this Safety Data Sheet.

Interactive Effects
Not determined.

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:
Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Polyether-hydrocarbon-urethane polymer	154517-54-1	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
Diphenylmethane-4,4'-diisocyanate	101-68-8	Activated sludge	Estimated	3 hours	EC50	>100 mg/l
Diphenylmethane-4,4'-diisocyanate	101-68-8	Green algae	Estimated	72 hours	EC50	>1,640 mg/l
Diphenylmethane-4,4'-diisocyanate	101-68-8	Water flea	Estimated	24 hours	EC50	>1,000 mg/l
Diphenylmethane-4,4'-diisocyanate	101-68-8	Zebra Fish	Estimated	96 hours	LC50	>1,000 mg/l
Diphenylmethane-4,4'-diisocyanate	101-68-8	Green algae	Estimated	72 hours	NOEC	1,640 mg/l
Diphenylmethane-4,4'-diisocyanate	101-68-8	Water flea	Estimated	21 days	NOEC	10 mg/l
1,1'-Methylenebis[isocyanatobenzene], homopolymer	39310-05-9	Water flea	Analogous Compound	24 hours	EC50	>100 mg/l
Diundecyl phthalate	3648-20-2	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Diundecyl phthalate	3648-20-2	Water flea	Experimental	21 days	NOEC	0.35 mg/l
diundecyl phthalatye, branched and linear	85507-79-5	Green algae	Estimated	72 hours	EC50	>100 mg/l
diundecyl phthalatye, branched and linear	85507-79-5	Rainbow trout	Estimated	96 hours	LC50	>100 mg/l
diundecyl phthalatye, branched and linear	85507-79-5	Sheepshead Minnow	Estimated	96 hours	LC50	>100 mg/l
diundecyl phthalatye, branched and linear	85507-79-5	Green algae	Estimated	72 hours	NOEC	100 mg/l
diundecyl phthalatye, branched and linear	85507-79-5	Rainbow trout	Estimated	155 days	NOEC	100 mg/l
Methylenediphenyl diisocyanate	26447-40-5	Green algae	Analogous Compound	72 hours	EC50	>1,640 mg/l
Methylenediphenyl diisocyanate	26447-40-5	Water flea	Analogous Compound	24 hours	EC50	>1,000 mg/l
Methylenediphenyl diisocyanate	26447-40-5	Zebra Fish	Analogous Compound	96 hours	LC50	>1,000 mg/l
Methylenediphenyl diisocyanate	26447-40-5	Green algae	Analogous Compound	72 hours	NOEC	1,640 mg/l
Methylenediphenyl diisocyanate	26447-40-5	Water flea	Analogous Compound	21 days	NOEC	10 mg/l
Methylenediphenyl	26447-40-5	Activated sludge	Analogous	3 hours	EC50	>100 mg/l

diisocyanate			Compound			
Methylenediphenyl diisocyanate	26447-40-5	Lettuce	Analogous Compound	17 days	NOEC	1,000 mg/kg (Dry Weight)
Methylenediphenyl diisocyanate	26447-40-5	Redworm	Analogous Compound	14 days	LC50	>1,000 mg/kg (Dry Weight)
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	1843-03-4	Green algae	Experimental	72 hours	ErC50	>1,000 mg/l
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	1843-03-4	Water flea	Experimental	48 hours	EC50	>1,000 mg/l
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	1843-03-4	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	1843-03-4	Green algae	Experimental	72 hours	ErC10	>1,000 mg/l
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	1843-03-4	Activated sludge	Analogous Compound	3 hours	EC50	>1,000 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Polyether-hydrocarbon-urethane polymer	154517-54-1	Data not available-insufficient	N/A	N/A	N/A	N/A
Diphenylmethane-4,4'-diisocyanate	101-68-8	Estimated Hydrolysis		Hydrolytic half-life	20 hours (t 1/2)	
1,1'-Methylenebis[isocyanatobenzene], homopolymer	39310-05-9	Hydrolysis Product Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301C - MITI test (I)
1,1'-Methylenebis[isocyanatobenzene], homopolymer	39310-05-9	Analogous Compound Hydrolysis		Hydrolytic half-life (pH 7)	<2 hours (t 1/2)	
Diundecyl phthalate	3648-20-2	Experimental Biodegradation	28 days	CO2 evolution	76 %CO2 evolution/THCO2 evolution	similar to OECD 301B
diundecyl phthalatye, branched and linear	85507-79-5	Experimental Biodegradation	28 days	CO2 evolution	66 %CO2 evolution/THCO2 evolution (does not pass 10-day window)	OECD 301B - Modified sturm or CO2
Methylenediphenyl diisocyanate	26447-40-5	Analogous Compound Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301C - MITI test (I)
Methylenediphenyl diisocyanate	26447-40-5	Analogous Compound Aquatic Inherent Biodegrad.	28 days	BOD	0 %BOD/ThOD	OECD 302C - Modified MITI (II)
Methylenediphenyl	26447-40-5	Analogous		Hydrolytic half-life	<2 hours (t 1/2)	

diisocyanate		Compound Hydrolysis		(pH 7)		
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	1843-03-4	Experimental Biodegradation	28 days	CO2 evolution	12 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Polyether-hydrocarbon-urethane polymer	154517-54-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Diphenylmethane-4,4'-diisocyanate	101-68-8	Experimental BCF - Fish	28 days	Bioaccumulation factor	200	OECD305-Bioconcentration
1,1'-Methylenebis[isocyanatobenzene], homopolymer	39310-05-9	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	200	
Diundecyl phthalate	3648-20-2	Modeled Bioconcentration		Bioaccumulation factor	7.4	Catalogic™
diundecyl phthalatye, branched and linear	85507-79-5	Modeled Bioconcentration		Bioaccumulation factor	7.4	Catalogic™
diundecyl phthalatye, branched and linear	85507-79-5	Experimental Bioconcentration		Log Kow	10.33	
Methylenediphenyl diisocyanate	26447-40-5	Analogous Compound BCF - Fish	28 days	Bioaccumulation factor	200	OECD305-Bioconcentration
Methylenediphenyl diisocyanate	26447-40-5	Analogous Compound Bioconcentration		Log Kow	4.51	OECD 117 log Kow HPLC method
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl)Butane	1843-03-4	Modeled Bioconcentration		Log Kow	12.7	Episuite™

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

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes.

SECTION 14: Transport Information

Australian Dangerous Goods Code (ADG) - Road/Rail Transport
UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.

Packing Group: Not applicable.

Hazchem Code: Not applicable
IERG: Not applicable.

International Air Transport Association (IATA) - Air Transport
UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.

International Maritime Dangerous Goods Code (IMDG)- Marine Transport
UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.
Marine Pollutant: Not applicable.

SECTION 15: Regulatory information

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

Australian Inventory Status:
All components of this product are listed on or exempt from the Australian Inventory of Industrial Chemicals (AIIC). Conditions may apply prior to introduction for direct importers of this product, Please contact 3M Australia on 136 136 for further details.

Poison Schedule: This product is intended for Industrial or Professional Use only and therefore is not packaged and labelled in accordance with the requirements of the Standard for the Uniform Scheduling of Medicines and Poisons.

SECTION 16: Other information

Revision information:
Complete document review.

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 Safety 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.
Greenguard ® is a United States based program. The ‘Low VOC’ reference related to United States Federal and State regulations exemptions for some solvents.

3M Australia SDSs are available at www.3m.com.au

Safety Data Sheet

Document group:	28-7666-2	**Version number:**	2.00
Issue Date:	11/10/2021	**Supersedes date:**	12/09/2016

This Safety Data Sheet has been prepared in accordance with the Preparation of Safety Data Sheets for Hazardous Chemicals Code of Practice (Safe Work Australia, December 2011)

SECTION 1: Identification

1.1. Product identifier
3M™ Scotchcast™ Flame Retardant Resin 2131 (PART B)

Product Identification Numbers
80-6114-6841-6 80-6116-1288-0

1.2. Recommended use and restrictions on use

Recommended use
Electrical, Part B of two part electrical resin

For Industrial or Professional use only.

1.3. Supplier's details
Address: 3M Australia - Building A, 1 Rivett Road, North Ryde NSW 2113
Telephone: 136 136
E Mail: productinfo.au@mmm.com
Website: www.3m.com.au

1.4. Emergency telephone number
EMERGENCY: 1800 097 146 (Australia only)

SECTION 2: Hazard identification

This product is classified as a hazardous chemical according to the Model Work Health and Safety Regulations, 2011, in accordance with applicable State and Territory legislation.

Refer to Section 14 of this Safety Data Sheets for product Dangerous Goods Classification.

2.1. Classification of the substance or mixture
Serious Eye Damage/Irritation: Category 1.
Carcinogenicity: Category 2.

2.2. Label elements
The label elements below were prepared in accordance with the Code of Practice on Preparation of Safety Data Sheets for Hazardous Chemicals (Safe Work Australia, December 2011). This information may be different from the actual product

label.

Signal word
Danger

Symbols
Corrosion |Health Hazard |

Pictograms

Hazard statements

H318	Causes serious eye damage.
H351	Suspected of causing cancer.

Precautionary statements

Prevention:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P280F	Wear respiratory protection.

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.
P310	Immediately call a POISON CENTRE or doctor/physician.

Storage:

P405	Store locked up.

Disposal:

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

2.3. Other assigned/identified product hazards
None known.

2.4. Other hazards which do not result in classification
Harmful to aquatic life.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Weight
diundecyl phthalatye, branched and linear	85507-79-5	10 - 30
Homopolymer	69102-90-5	20 - 30
1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene]	84852-53-9	22 - 25
Silicic acid, aluminum potassium sodium salt	12736-96-8	1 - 10

Diantimony pentoxide	1314-60-9	5 - 10
Castor oil	8001-79-4	1 - 10
1,1'-Phenyliminodipropan-2-ol	3077-13-2	4 - 10
Polypropylene ether diol	25322-69-4	5 - 10
Dipropylene glycol	25265-71-8	3 - 6
Carbon black	1333-86-4	< 2
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	2082-79-3	< 1
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	68909-20-6	0.5 - 1
1,4-diazabicyclooctane	280-57-9	< 1

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
Wash with soap and water. 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
No critical symptoms or effects. See Section 11.1, information on toxicological effects.

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

SECTION 5: Fire-fighting measures

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

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

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Oxides of nitrogen.	During combustion.
Oxides of antimony.	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 handle until all safety precautions have been read and understood. 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. Avoid release to the environment. Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
Keep container tightly closed. Keep cool. Store away from heat. Store in a dry place.

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
Carbon black	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m3	A3: Confirmed animal carcinogen.
Carbon black	1333-86-4	Australia OELs	TWA(8 hours): 3 mg/m3	
Polypropylene ether diol	25322-69-4	AIHA	TWA(as aerosol):10 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
Australia OELs : Australia. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment
CMRG : Chemical Manufacturer's Recommended Guidelines
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling
Sen: Sensitiser
Sk: Absorption through the skin may be a significant source of exposure.

8.2. Exposure controls

8.2.1. Engineering controls
Use with appropriate local exhaust ventilation. Provide appropriate local exhaust ventilation on open containers.

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.

Select and use eye protection in accordance with AS/NZS 1336. Eye protection should comply with the performance specifications of AS/NZS 1337.

Skin/hand protection
No chemical protective gloves are required.

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.
Select and use respirators according to AS/NZS 1715. Respirators should comply with AS/NZS 1716 performance specifications. For information about respirators, call 3M on 1800 024 464.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Colour	Black
Odour	Pungent Odour
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*Not applicable.*
Boiling point/Initial boiling point/Boiling range	> 143.3 ºC
Flash point	> 143.3 ºC [*Test Method:*Closed Cup]
Evaporation rate	*No data available.*
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	< 186,158.4 Pa [@ 55 ºC]
Vapor Density and/or Relative Vapor Density	*No data available.*
Density	*No data available.*
Relative density	1.29 [*Ref Std:*WATER=1]
Water solubility	Nil
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
Viscosity/Kinematic Viscosity	5,500 mPa-s
Volatile organic compounds (VOC)	
Percent volatile	
VOC less H2O & exempt solvents	12.9 g/l

Molecular weight	*No data available.*

Nanoparticles
This material contains nanoparticles.

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3. Conditions to avoid
None known.

10.4. Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.5 Incompatible materials
None known.

10.6 Hazardous decomposition products

Substance	**Condition**
None known.	

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. May cause additional health effects (see below).

Skin contact
Contact with the skin during product use is not expected to result in significant irritation.

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.

Additional Health Effects:

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE >12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Homopolymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Homopolymer	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
diundecyl phthalatye, branched and linear	Dermal	Rat	LD50 > 2,000 mg/kg
diundecyl phthalatye, branched and linear	Ingestion	Rat	LD50 > 15,800 mg/kg
Polypropylene ether diol	Dermal	Rabbit	LD50 > 10,000 mg/kg
Polypropylene ether diol	Ingestion	Rat	LD50 > 2,000 mg/kg
1,1'-Phenyliminodipropan-2-ol	Dermal	Rabbit	LD50 > 2,000 mg/kg
1,1'-Phenyliminodipropan-2-ol	Ingestion	Rat	LD50 3,800 mg/kg
Castor oil	Dermal		LD50 estimated to be > 5,000
Castor oil	Ingestion		LD50 estimated to be > 5,000
Dipropylene glycol	Dermal	Rabbit	LD50 > 5,010 mg/kg
Dipropylene glycol	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.34 mg/l
Dipropylene glycol	Ingestion	Rat	LD50 > 14,800 mg/kg
Carbon black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon black	Ingestion	Rat	LD50 > 8,000 mg/kg
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
1,4-diazabicyclooctane	Dermal	Rabbit	LD50 > 3,200 mg/kg
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	Rat	LD50 > 5,110 mg/kg
1,4-diazabicyclooctane	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.05 mg/l
1,4-diazabicyclooctane	Ingestion	Rat	LD50 1,870 mg/kg
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	Dermal	Rat	LD50 > 2,000 mg/kg
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.8 mg/l
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value

diundecyl phthalatye, branched and linear	Rabbit	No significant irritation
Polypropylene ether diol	Rabbit	No significant irritation
1,1'-Phenyliminodipropan-2-ol	Professional judgement	Minimal irritation
Castor oil	Human	Minimal irritation
Dipropylene glycol	Rabbit	No significant irritation
Carbon black	Rabbit	No significant irritation
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Rabbit	No significant irritation
1,4-diazabicyclooctane	Rabbit	Mild irritant
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
diundecyl phthalatye, branched and linear	Rabbit	Mild irritant
Polypropylene ether diol	Rabbit	No significant irritation
1,1'-Phenyliminodipropan-2-ol	Professional judgement	Corrosive
Castor oil	Rabbit	Mild irritant
Dipropylene glycol	Rabbit	No significant irritation
Carbon black	Rabbit	No significant irritation
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Rabbit	No significant irritation
1,4-diazabicyclooctane	Rabbit	Corrosive
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	Rabbit	Mild irritant

Skin Sensitisation

Name	Species	Value
diundecyl phthalatye, branched and linear	Human	Not classified
Castor oil	Human	Not classified
Dipropylene glycol	Guinea pig	Not classified
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Human and animal	Not classified
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	Human and animal	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
diundecyl phthalatye, branched and linear	In Vitro	Not mutagenic
Castor oil	In Vitro	Not mutagenic
Castor oil	In vivo	Not mutagenic
Dipropylene glycol	In Vitro	Not mutagenic
Dipropylene glycol	In vivo	Not mutagenic
Carbon black	In Vitro	Not mutagenic
Carbon black	In vivo	Some positive data exist, but the data are not sufficient for classification
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	In Vitro	Not mutagenic
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	In Vitro	Not mutagenic

Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Dipropylene glycol	Ingestion	Multiple animal species	Not carcinogenic
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	Ingestion	Mouse	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
diundecyl phthalatye, branched and linear	Ingestion	Not classified for male reproduction	Rat	NOAEL 2,100 mg/kg/day	21 days
diundecyl phthalatye, branched and linear	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
Dipropylene glycol	Ingestion	Not classified for development	Rat	NOAEL 5,000 mg/kg/day	during organogenesis
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	Ingestion	Not classified for female reproduction	Rat	NOAEL 421 mg/kg/day	2 generation
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	Ingestion	Not classified for male reproduction	Rat	NOAEL 375 mg/kg/day	2 generation
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	Ingestion	Not classified for development	Rat	NOAEL 421 mg/kg/day	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure
For the component/components, either no data are currently available or the data are not sufficient for classification.

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
diundecyl phthalatye, branched and linear	Ingestion	liver	Not classified	Rat	NOAEL 2,100 mg/kg/day	21 days
Castor oil	Ingestion	heart | hematopoietic system | liver	Not classified	Rat	NOAEL 4,800 mg/kg/day	13 weeks
Castor oil	Ingestion	kidney and/or bladder	Not classified	Mouse	NOAEL 13,000 mg/kg/day	13 weeks
Dipropylene glycol	Ingestion	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 470 mg/kg/day	105 weeks
Dipropylene glycol	Ingestion	heart	Not classified	Rat	NOAEL 470 mg/kg/day	105 weeks
Dipropylene glycol	Ingestion	endocrine system | liver	Not classified	Rat	NOAEL 3,040 mg/kg/day	105 weeks
Dipropylene glycol	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 115 mg/kg/day	105 weeks
Dipropylene glycol	Ingestion	skin | bone, teeth, nails, and/or hair | hematopoietic system | immune system | nervous system | vascular system	Not classified	Rat	NOAEL 3,040 mg/kg/day	105 weeks
Carbon black	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	Ingestion	liver | kidney and/or bladder | heart | endocrine system | respiratory system	Not classified	Rat	NOAEL 300 mg/kg/day	28 days
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

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

Exposure Levels
Refer Section **8.1 Control Parameters** of this Safety Data Sheet.

Interactive Effects
Not determined.

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

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
diundecyl phthalatye, branched and linear	85507-79-5	Green algae	Estimated	72 hours	EC50	>100 mg/l
diundecyl phthalatye, branched and linear	85507-79-5	Rainbow trout	Estimated	96 hours	LC50	>100 mg/l
diundecyl phthalatye, branched and linear	85507-79-5	Sheepshead Minnow	Estimated	96 hours	LC50	>100 mg/l
diundecyl phthalatye, branched and linear	85507-79-5	Green algae	Estimated	72 hours	NOEC	100 mg/l
diundecyl phthalatye, branched and linear	85507-79-5	Rainbow trout	Estimated	155 days	NOEC	100 mg/l
Homopolymer	69102-90-5		Data not available or insufficient for classification			N/A
1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene]	84852-53-9	Activated sludge	Experimental	3 hours	NOEC	10 mg/l
1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene]	84852-53-9	Green algae	Experimental	96 hours	EC50	>100 mg/l
1,1'-(Ethane-	84852-53-9	Rainbow trout	Experimental	96 hours	No tox obs at	>100 mg/l

1,2-diyl)bis[pentabromobenzene]					lmt of water sol	
1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene]	84852-53-9	Water flea	Experimental	48 hours	No tox obs at lmt of water sol	>100 mg/l
1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene]	84852-53-9	Green Algae	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Silicic acid, aluminum potassium sodium salt	12736-96-8	Green algae	Estimated	96 hours	EC50	>100 mg/l
Silicic acid, aluminum potassium sodium salt	12736-96-8	Zebra Fish	Estimated	96 hours	LC50	>100 mg/l
Silicic acid, aluminum potassium sodium salt	12736-96-8	Green algae	Estimated	72 hours	NOEC	100 mg/l
Silicic acid, aluminum potassium sodium salt	12736-96-8	Water flea	Estimated	21 days	NOEC	100 mg/l
Diantimony pentoxide	1314-60-9	Fish other	Estimated	96 hours	LC50	9.2 mg/l
Diantimony pentoxide	1314-60-9	Green algae	Estimated	72 hours	EC50	>48.6 mg/l
Diantimony pentoxide	1314-60-9	Fathead minnow	Estimated	28 days	NOEC	1.5 mg/l
Diantimony pentoxide	1314-60-9	Green algae	Estimated	72 hours	NOEC	2.8 mg/l
Diantimony pentoxide	1314-60-9	Water flea	Estimated	21 days	NOEC	2.32 mg/l
Castor oil	8001-79-4	Bacteria	Estimated	16 hours	NOEC	10,000 mg/l
Castor oil	8001-79-4	Zebra Fish	Estimated	96 hours	LC50	>100 mg/l
1,1'-Phenyliminodipropan-2-ol	3077-13-2		Data not available or insufficient for classification			N/A
Polypropylene ether diol	25322-69-4	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
Polypropylene ether diol	25322-69-4	Green algae	Experimental	72 hours	EC50	>100 mg/l
Polypropylene ether diol	25322-69-4	Water flea	Experimental	48 hours	EC50	105.8 mg/l
Polypropylene ether diol	25322-69-4	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
Polypropylene ether diol	25322-69-4	Green algae	Experimental	72 hours	NOEC	>100 mg/l
Polypropylene	25322-69-4	Water flea	Experimental	21 days	NOEC	>=10 mg/l

ether diol						
Dipropylene glycol	25265-71-8	Goldfish	Experimental	96 hours	LC50	>5,000 mg/l
Dipropylene glycol	25265-71-8	Green algae	Experimental	72 hours	EC50	>100 mg/l
Dipropylene glycol	25265-71-8	Water flea	Experimental	48 hours	EC50	>100 mg/l
Dipropylene glycol	25265-71-8	Green algae	Experimental	72 hours	NOEC	100 mg/l
Dipropylene glycol	25265-71-8	Bacteria	Experimental	18 hours	EC10	1,000 mg/l
Dipropylene glycol	25265-71-8	Bobwhite Quail	Experimental	14 days	LD50	>2,000 mg per kg of bodyweight
Carbon black	1333-86-4	Activated sludge	Experimental	3 hours	EC50	>=100 mg/l
Carbon black	1333-86-4		Data not available or insufficient for classification			N/A
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	2082-79-3	Activated sludge	Experimental	3 hours	EC50	>100 mg/l
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	2082-79-3	Bluegill	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	2082-79-3	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	2082-79-3	Water flea	Experimental	24 hours	No tox obs at lmt of water sol	>100 mg/l
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	2082-79-3	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	2082-79-3	Water flea	Experimental	21 days	No tox obs at lmt of water sol	>100 mg/l
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with	68909-20-6	Algae	Estimated	72 hours	EC50	>100 mg/l

silica						
1,4-diazabicyclooctane	280-57-9	Bacteria	Experimental	17 hours	EC50	356 mg/l
1,4-diazabicyclooctane	280-57-9	Common Carp	Experimental	96 hours	LC50	>100 mg/l
1,4-diazabicyclooctane	280-57-9	Green Algae	Experimental	72 hours	EC50	180 mg/l
1,4-diazabicyclooctane	280-57-9	Water flea	Experimental	48 hours	EC50	>100 mg/l
1,4-diazabicyclooctane	280-57-9	Green Algae	Experimental	72 hours	EC10	79 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
diundecyl phthalatye, branched and linear	85507-79-5	Experimental Biodegradation	28 days	CO2 evolution	66 % weight	OECD 301B - Modified sturm or CO2
Homopolymer	69102-90-5	Data not available-insufficient			N/A	
1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene]	84852-53-9	Experimental Biodegradation	28 days	BOD	0 % BOD/ThBOD	OECD 301C - MITI test (I)
Silicic acid, aluminum potassium sodium salt	12736-96-8	Data not available-insufficient			N/A	
Diantimony pentoxide	1314-60-9	Data not available-insufficient			N/A	
Castor oil	8001-79-4	Estimated Biodegradation	28 days	BOD	64 % weight	OECD 301D - Closed bottle test
1,1'-Phenyliminodipropan-2-ol	3077-13-2	Estimated Biodegradation	28 days	BOD	6 % weight	OECD 301C - MITI test (I)
Polypropylene ether diol	25322-69-4	Experimental Biodegradation	28 days	BOD	89 % weight	OECD 301F - Manometric respirometry
Dipropylene glycol	25265-71-8	Experimental Biodegradation	28 days	BOD	84.4 % BOD/ThBOD	OECD 301F - Manometric respirometry
Dipropylene glycol	25265-71-8	Experimental Aquatic Inherent Biodegrad.	42 days	Dissolv. Organic Carbon Deplet	83.6 %removal of DOC	OECD 302A - Modified SCAS Test
Dipropylene glycol	25265-71-8	Experimental Biodegradation	64 days	Dissolv. Organic	23.6 %removal of DOC	OECD 306(Misc)-Biodegrad. Seaw

				Carbon Deplet		
Carbon black	1333-86-4	Data not available-insufficient			N/A	
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	2082-79-3	Experimental Biodegradation	28 days	BOD	21 % BOD/ThBOD	OECD 301C - MITI test (I)
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	68909-20-6	Data not available-insufficient			N/A	
1,4-diazabicyclooctane	280-57-9	Experimental Biodegradation	28 days	CO2 evolution	7 % weight	OECD 301B - Modified sturm or CO2

12.3 : Bioaccumulative potential

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
diundecyl phthalatye, branched and linear	85507-79-5	Estimated Bioconcentration		Bioaccumulation factor	7.4	Estimated: Bioconcentration factor
Homopolymer	69102-90-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene]	84852-53-9	Experimental Bioconcentration		Log Kow	3.55	Non-standard method
Silicic acid, aluminum potassium sodium salt	12736-96-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Diantimony pentoxide	1314-60-9	Estimated BCF - Other	23 days	Bioaccumulation factor	<=28.6	Non-standard method
Castor oil	8001-79-4	Estimated Bioconcentration		Bioaccumulation factor	7.4	Estimated: Bioconcentration factor
1,1'-Phenyliminodipropan-2-ol	3077-13-2	Estimated Bioconcentration		Bioaccumulation factor	2.8	Estimated: Bioconcentration factor
Polypropylene ether diol	25322-69-4	Experimental Bioconcentration		Log Kow	<0.9	Non-standard method
Dipropylene glycol	25265-71-8	Experimental BCF-Carp	42 days	Bioaccumulation factor	4.6	OECD305-Bioconcentration
Dipropylene glycol	25265-71-8	Experimental Bioconcentration		Log Kow	-0.462	EC A.8 Partition Coefficient

Carbon black	1333-86-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Hydrocinnamic acid, 3,5-di-tert-butyl-4-hydroxy-, octadecyl ester	2082-79-3	Experimental BCF-Carp	42 days	Bioaccumulation factor	<12	OECD 305E - Bioaccumulation flow-through fish test
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	68909-20-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
1,4-diazabicyclooctane	280-57-9	Experimental BCF-Carp	42 days	Bioaccumulation factor	<13	OECD 305E - Bioaccumulation flow-through fish test

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

Incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes.

SECTION 14: Transport Information

Australian Dangerous Goods Code (ADG) - Road/Rail Transport
UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.

Hazchem Code: Not applicable
IERG: Not applicable.

International Air Transport Association (IATA) - Air Transport
UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.

International Maritime Dangerous Goods Code (IMDG)- Marine Transport

UN No.: Not applicable.
Proper shipping name: Not applicable.
Class/Division: Not applicable.
Sub Risk: Not applicable.
Packing Group: Not applicable.
Marine Pollutant: Not applicable.

SECTION 15: Regulatory information

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

Australian Inventory Status:
All components of this product are listed on or exempt from the Australian Inventory of Industrial Chemicals (AIIC). Conditions may apply prior to introduction for direct importers of this product, Please contact 3M Australia on 136 136 for further details.

Poison Schedule: This product is intended for Industrial or Professional Use only and therefore is not packaged and labelled in accordance with the requirements of the Standard for the Uniform Scheduling of Medicines and Poisons.

SECTION 16: Other information

Revision information:
Complete document review.

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 Safety 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.
Greenguard ® is a United States based program. The ‘Low VOC’ reference related to United States Federal and State regulations exemptions for some solvents.

3M Australia SDSs are available at www.3m.com.au