



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances (Safety Data Sheets) Notice 2017.

IDENTIFICATION:

1.1. Product identifier

3M™ Scotchcast™ Flexible Power Cable Splicing Kits with 2131 Resin (82-F1)

Product Identification Numbers

80-6114-6835-8

1.2. Recommended use and restrictions on use

Recommended use

Electrical

1.3. Supplier's details

Address: 3M New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland
Telephone: (09) 477 4040
E Mail: innovation@nz.mmm.com
Website: 3m.co.nz

1.4. Emergency telephone number

24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

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:

28-7666-2, 28-7650-6

One or more components of this KIT is classified as a hazardous substance in accordance with the relevant criteria of the HSNO Act 1996 and the Hazardous Substances (Hazard Classification) Notice 2020.

TRANSPORT INFORMATION

NOT HAZARDOUS FOR TRANSPORT

Revision information:

Complete document review.

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3M New Zealand SDS are available at 3M New Zealand Website: <http://solutions.3mnz.co.nz>



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances (Safety Data Sheets) Notice 2017.

SECTION 1: Identification

1.1. Product identifier

3M™ Scotchcast™ Flame-Retardant Compound 2131 (Part A)

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 New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland
Telephone: (09) 477 4040
E Mail: innovation@nz.mmm.com
Website: 3m.co.nz

1.4. Emergency telephone number

24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

SECTION 2: Hazard identification

Classified as hazardous in accordance with the relevant criteria of the HSNO Act 1996 and the Hazardous Substances (Hazard Classification) Notice 2020.

Refer to Section 14 of this Safety Data Sheet 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 Sensitiser: Category 1
Skin Sensitiser: Category 1
Specific Target Organ Toxicity (repeated exposure): Category 1
Specific Target Organ Toxicity (single exposure): Category 3

2.2. Label elements

SIGNAL WORD

Danger

Symbols:

Exclamation mark |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 CENTER or doctor/physician.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Storage

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal

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

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

SECTION 3: Composition/information on ingredients

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.

A product risk assessment is recommended to determine if eye wash facilities may be required when using this product in the workplace.

If swallowed

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

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

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

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

Carbon monoxide.
Carbon dioxide.
Hydrogen cyanide.
Oxides of nitrogen.

Condition

During combustion.
During combustion.
During combustion.
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.

5.4. Hazchem code: Not applicable.

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

Refer to Section 15 - Controls for more information

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.

7.3. Certified handler

Not required

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
Free isocyanates	101-68-8	New Zealand WES	TWA(as NCO)(8 hours):0.02 mg/m ³ ;STEL(as NCO)(15 minutes):0.07 mg/m ³	Capable of csng resp/skin sens, Dermal sensitiser, Respiratory

Diphenylmethane-4,4'-diisocyanate	101-68-8	ACGIH	TWA:0.005 ppm	sensitiser
Free isocyanates	26447-40-5	New Zealand WES	TWA(as NCO)(8 hours):0.02 mg/m ³ ;STEL(as NCO)(15 minutes):0.07 mg/m ³	Capable of csng resp/skin sens, Dermal sensitiser, Respiratory sensitiser
Free isocyanates	39310-05-9	New Zealand WES	TWA(as NCO)(8 hours):0.02 mg/m ³ ;STEL(as NCO)(15 minutes):0.07 mg/m ³	Capable of csng resp/skin sens, Dermal sensitiser, Respiratory sensitiser

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

New Zealand WES : New Zealand Workplace Exposure Standards.

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

ppm: parts per million

mg/m³: milligrams per cubic metre

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:

Indirect vented goggles.

Refer AS/NZS 1336 - Recommended practices for occupational eye protection and for performance specifications AS/NZS 1337, Parts 1 - 6 - Personal eye-protection.

Skin/hand protection

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

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

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

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

Half facepiece or full facepiece supplied-air respirator.

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

Refer AS/NZS 1715 - Selection, use and maintenance of respiratory protective equipment and AS/NZS 1716 - Respiratory protective devices.

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	<i>No data available.</i>
pH	<i>Not applicable.</i>
Melting point/Freezing point	<i>Not applicable.</i>
Boiling point/Initial boiling point/Boiling range	≥ 148.9 °C
Flash point	≥ 148.9 °C [<i>Test Method: Closed Cup</i>]
Evaporation rate	<i>No data available.</i>
Flammability (solid, gas)	Not applicable.
Flammable Limits(LEL)	<i>No data available.</i>
Flammable Limits(UEL)	<i>No data available.</i>
Vapour pressure	<i>No data available.</i>
Vapor Density and/or Relative Vapor Density	<i>No data available.</i>
Density	<i>No data available.</i>
Relative density	1.08 [<i>Ref Std: WATER=1</i>]
Water solubility	Nil
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Autoignition temperature	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity/Kinematic Viscosity	700 - 900 mPa-s
Volatile organic compounds (VOC)	<i>No data available.</i>
Percent volatile	<i>No data available.</i>
VOC less H ₂ O & exempt solvents	10.5 g/l
Average particle size	<i>No data available.</i>
Bulk density	<i>No data available.</i>
Molecular weight	<i>No data available.</i>
Softening point	<i>No data available.</i>

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.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

Strong bases.
Alcohols.
Water

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

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 phthalate, branched and linear	Dermal	Rat	LD50 > 2,000 mg/kg
diundecyl phthalate, 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 phthalate, 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 phthalate, 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

Sensitisation:
Skin Sensitisation

Name	Species	Value
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3M™ Scotchcast™ Flame-Retardant Compound 2131 (Part A)

Diphenylmethane-4,4'-diisocyanate	official classification	Sensitising
diundecyl phthalate, 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 phthalate, 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 phthalate, branched and linear	Ingestion	Not classified for male reproduction	Rat	NOAEL 2,100 mg/kg/day	21 days
diundecyl phthalate, 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 diisocyanate	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis

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

3M™ Scotchcast™ Flame-Retardant Compound 2131 (Part A)

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 phthalate, 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.

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

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
Polyether-hydrocarbon-urethane polymer	154517-54-1		Data not available or insufficient for classification			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'-	101-68-8	Water flea	Estimated	24 hours	EC50	>1,000 mg/l

3M™ Scotchcast™ Flame-Retardant Compound 2131 (Part A)

diisocyanate						
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	Estimated	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 phthalate, branched and linear	85507-79-5	Green algae	Estimated	72 hours	EC50	>100 mg/l
diundecyl phthalate, branched and linear	85507-79-5	Rainbow trout	Estimated	96 hours	LC50	>100 mg/l
diundecyl phthalate, branched and linear	85507-79-5	Sheepshead Minnow	Estimated	96 hours	LC50	>100 mg/l
diundecyl phthalate, branched and linear	85507-79-5	Green algae	Estimated	72 hours	NOEC	100 mg/l
diundecyl phthalate, 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 diisocyanate	26447-40-5	Activated	Analogous	3 hours	EC50	>100 mg/l

enyl diisocyanate		sludge	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	Estimated Biodegradation	28 days	BOD	0 % weight	OECD 301C - MITI test (I)
1,1'-Methylenebis[isocyanatobenzene], homopolymer	39310-05-9	Estimated Hydrolysis		Hydrolytic half-life	<2 hours (t 1/2)	
Diundecyl	3648-20-2	Experimental	28 days	CO2 evolution	76 % weight	

3M™ Scotchcast™ Flame-Retardant Compound 2131 (Part A)

phthalate		Biodegradation				
diundecyl phthalate, branched and linear	85507-79-5	Experimental Biodegradation	28 days	CO2 evolution	66 %CO2 evolution/THC O2 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 diisocyanate	26447-40-5	Analogous Compound Hydrolysis		Hydrolytic half-life (pH 7)	<2 hours (t 1/2)	
1,1,3-Tris(3-Tert-Butyl-4-Hydroxy-6-Methylphenyl) Butane	1843-03-4	Experimental Biodegradation	28 days	CO2 evolution	12 %CO2 evolution/THC O2 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	Estimated BCF - Fish	28 days	Bioaccumulation factor	200	
Diundecyl phthalate	3648-20-2	Estimated Bioconcentration		Bioaccumulation factor	7.4	
diundecyl phthalate, branched and linear	85507-79-5	Modeled Bioconcentration		Bioaccumulation factor	7.4	Catalogic™
diundecyl phthalate, 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	26447-40-5	Analogous Compound		Log Kow	4.51	OECD 117 log Kow HPLC method

diisocyanate		Bioconcentration				
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

In accordance with the Hazardous Substances (Disposal) Notice 2017 and the relevant criteria of the HSNO Act 1996.

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

Packaging (that may or may not contain any residual substance) may be lawfully disposed of by householders or other consumers through public or commercial waste collection services.

SECTION 14: Transport Information

New Zealand Land Transport Rule: Dangerous Goods - 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

HSNO Approval number HSR002670
 Group standard name Surface Coatings and Colourants (Subsidiary Hazard) Group Standard 2020
 HSNO Hazard classification Refer to Section 2: Hazard identification

NZ Inventory of Chemicals (NZIoC) Status

All applicable chemical ingredients in this material are in compliance with NZIoC listing requirements.

Controls in accordance with The Health and Safety at Work Act 2015, Health and Safety at Work (Hazardous Substances) Regulations 2017 and the HSNO Act 1996, Hazardous Substances (Hazardous Property Controls) Notice 2017

Certified handler	Not required
Location Compliance Certificate	Not required
Hazardous atmosphere zone	Not required
Fire extinguishers	Not required
Emergency response plan	1 000 L or 1 000 kg (for Acute toxicity Category 4, Skin sensitisation Category 1, Respiratory sensitisation Category 1, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for Germ cell mutagenicity Category 1, Reproductive toxicity Category 1, Specific target organ toxicity Category 1, Serious eye damage Category 1, Hazardous to the aquatic environment Category 4 substances)
Secondary containment	1 000 L or 1 000 kg (for Acute toxicity Category 4, Skin sensitisation Category 1, Respiratory sensitisation Category 1, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for Germ cell mutagenicity Category 1, Reproductive toxicity Category 1, Specific target organ toxicity Category 1, Serious eye damage Category 1, Hazardous to the aquatic environment Category 4 substances)
Tracking	Not required
Warning signage	1 000 L or 1 000 kg (for Serious eye damage Category 1, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for Acute toxicity Category 4 or Hazardous to the aquatic environment Category 4 substances)

SECTION 16: Other information**Revision information:**

Complete document review.

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Key to abbreviations and acronyms

GHS refers to the Globally Harmonised System of Classification and Labelling of Chemicals, 7th revised edition of 2017

HSNO means Hazardous Substances and New Organisms Act 1996

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Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances (Safety Data Sheets) Notice 2017.

SECTION 1: Identification

1.1. Product identifier

3M™ Scotchcast™ Flame Retardant Resin 2131 (PART B)

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 New Zealand Ltd, 94 Apollo Drive, Rosedale 0632, Auckland
Telephone: (09) 477 4040
E Mail: innovation@nz.mmm.com
Website: 3m.co.nz

1.4. Emergency telephone number

24 hr Medical Emergency, National Poisons Centre, 0800 764 766 (0800 POISON)

SECTION 2: Hazard identification

Classified as hazardous in accordance with the relevant criteria of the HSNO Act 1996 and the Hazardous Substances (Hazard Classification) Notice 2020.

Refer to Section 14 of this Safety Data Sheet 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

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 CENTER or doctor/physician.

Storage

P405 Store locked up.

Disposal

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

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	% by Weight
Homopolymer	69102-90-5	20 - 30
1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene]	84852-53-9	22 - 25
diundecyl phthalate, branched and linear	85507-79-5	10 - 20
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
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	< 1.0
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	68909-20-6	0.5 - 1
1,4-diazabicyclooctane	280-57-9	< 1.0

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.

A product risk assessment is recommended to determine if eye wash facilities may be required when using this product in the workplace.

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

Carbon monoxide.

Carbon dioxide.

Oxides of nitrogen.

Oxides of antimony.

Condition

During combustion.

During combustion.

During combustion.

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.

5.4. Hazchem code: Not applicable.

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

Refer to Section 15 - Controls for more information

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.

7.3. Certified handler

Not required

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	New Zealand WES	TWA(8 hours): 3 mg/m3	Class-subclass 6.7, carc HCB
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

CMRG : Chemical Manufacturer's Recommended Guidelines

New Zealand WES : New Zealand Workplace Exposure Standards.

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

ppm: parts per million

mg/m³: milligrams per cubic metre

CEIL: Ceiling

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.

Refer AS/NZS 1336 - Recommended practices for occupational eye protection and for performance specifications AS/NZS 1337, Parts 1 - 6 - Personal eye-protection.

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 vapors and particulates

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

Refer AS/NZS 1715 - Selection, use and maintenance of respiratory protective equipment and AS/NZS 1716 - Respiratory protective devices.

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 °C
Flash point	> 143.3 °C [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 °C]
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)	No data available.
Percent volatile	No data available.
VOC less H ₂ O & exempt solvents	12.9 g/l
Molecular weight	No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

None known.

10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to Section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not 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 >2,000 - =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 phthalate, branched and linear	Dermal	Rat	LD50 > 2,000 mg/kg
diundecyl phthalate, 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
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	Dermal	Rat	LD50 > 2,000 mg/kg
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.8 mg/l
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
diundecyl phthalate, 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
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

3M™ Scotchcast™ Flame Retardant Resin 2131 (PART B)

Name	Species	Value
diundecyl phthalate, 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
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	Rabbit	Mild irritant

Sensitisation:**Skin Sensitisation**

Name	Species	Value
diundecyl phthalate, 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
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	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 phthalate, 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
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	In Vitro	Not mutagenic
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	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
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	Ingestion	Mouse	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
diundecyl phthalate, branched and linear	Ingestion	Not classified for male reproduction	Rat	NOAEL 2,100 mg/kg/day	21 days
diundecyl phthalate, 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
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	Ingestion	Not classified for female reproduction	Rat	NOAEL 421 mg/kg/day	2 generation
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	Ingestion	Not classified for male reproduction	Rat	NOAEL 375 mg/kg/day	2 generation
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	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 phthalate, 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-	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational

3M™ Scotchcast™ Flame Retardant Resin 2131 (PART B)

trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica		silicosis			available	exposure
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	Ingestion	liver kidney and/or bladder heart endocrine system respiratory system	Not classified	Rat	NOAEL 300 mg/kg/day	28 days
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	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.

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**Ecotoxic to the aquatic environment.**

Acute Aquatic Toxicity: Category 3

No product test data available.

Material	CAS Number	Organism	Type	Exposure	Test endpoint	Test result
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-1,2-diyl)bis[pentabromobenzene]	84852-53-9	Rainbow trout	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
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

3M™ Scotchcast™ Flame Retardant Resin 2131 (PART B)

diundecyl phthalate, branched and linear	85507-79-5	Green algae	Estimated	72 hours	EC50	>100 mg/l
diundecyl phthalate, branched and linear	85507-79-5	Rainbow trout	Estimated	96 hours	LC50	>100 mg/l
diundecyl phthalate, branched and linear	85507-79-5	Sheepshead Minnow	Estimated	96 hours	LC50	>100 mg/l
diundecyl phthalate, branched and linear	85507-79-5	Green algae	Estimated	72 hours	NOEC	100 mg/l
diundecyl phthalate, branched and linear	85507-79-5	Rainbow trout	Estimated	155 days	NOEC	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	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'-Phenyliminodi propan-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	25322-69-4	Green algae	Experimental	72 hours	EC50	>100 mg/l

3M™ Scotchcast™ Flame Retardant Resin 2131 (PART B)

ether diol						
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 ether diol	25322-69-4	Water flea	Experimental	21 days	NOEC	>=10 mg/l
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
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	Activated sludge	Experimental	3 hours	EC50	>100 mg/l
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	Bluegill	Experimental	96 hours	No tox obs at lmt of water sol	>100 mg/l
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	Water flea	Experimental	24 hours	No tox obs at lmt of water sol	>100 mg/l
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	Green algae	Experimental	72 hours	No tox obs at lmt of water sol	>100 mg/l
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	Water flea	Experimental	21 days	No tox obs at lmt of water sol	>100 mg/l

3M™ Scotchcast™ Flame Retardant Resin 2131 (PART B)

hydroxyphenyl)propionate						
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	68909-20-6	Algae or other aquatic plants	Estimated	72 hours	EC50	>100 mg/l
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	ErC50	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	ErC10	79 mg/l

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Homopolymer	69102-90-5	Data not available - insufficient	N/A	N/A	N/A	N/A
1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene]	84852-53-9	Experimental Biodegradation	28 days	BOD	0 %BOD/ThOD	OECD 301C - MITI test (I)
diundecyl phthalate, 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
Silicic acid, aluminum potassium sodium salt	12736-96-8	Data not available - insufficient	N/A	N/A	N/A	N/A
Diantimony pentoxide	1314-60-9	Data not available - insufficient	N/A	N/A	N/A	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	Modeled Biodegradation	28 days	BOD	6 %BOD/ThOD	Catalogic™
Polypropylene ether diol	25322-69-4	Experimental Biodegradation	28 days	BOD	89 % weight	OECD 301F - Manometric

3M™ Scotchcast™ Flame Retardant Resin 2131 (PART B)

						respirometry
Dipropylene glycol	25265-71-8	Experimental Biodegradation	28 days	BOD	84.4 %BOD/ThOD	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 Carbon Deplet	23.6 % removal of DOC	OECD 306(Misc)-Biodegrad. Seaw
Carbon black	1333-86-4	Data not availbl-insufficient	N/A	N/A	N/A	N/A
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	Experimental Biodegradation	28 days	BOD	21 %BOD/ThOD	OECD 301C - MITI test (I)
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	68909-20-6	Data not availbl-insufficient	N/A	N/A	N/A	N/A
1,4-diazabicyclooctane	280-57-9	Experimental Biodegradation	28 days	CO2 evolution	7 %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
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	
diundecyl phthalate, branched and linear	85507-79-5	Modeled Bioconcentration		Bioaccumulation factor	7.4	Catalogic™
diundecyl phthalate, branched and linear	85507-79-5	Experimental Bioconcentration		Log Kow	10.33	
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	

Castor oil	8001-79-4	Estimated Bioconcentration		Bioaccumulation factor	7.4	
1,1'-Phenyliminodipropan-2-ol	3077-13-2	Modeled Bioconcentration		Bioaccumulation factor	2.8	Catalogic™
Polypropylene ether diol	25322-69-4	Experimental Bioconcentration		Log Kow	<0.9	
Dipropylene glycol	25265-71-8	Experimental BCF - Fish	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
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	Experimental BCF - Fish	42 days	Bioaccumulation factor	<12	OECD305-Bioconcentration
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 - Fish	42 days	Bioaccumulation factor	<13	OECD305-Bioconcentration

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

In accordance with the Hazardous Substances (Disposal) Notice 2017 and the relevant criteria of the HSNO Act 1996.

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

Packaging (that may or may not contain any residual substance) may be lawfully disposed of by householders or other consumers through public or commercial waste collection services.

SECTION 14: Transport Information

New Zealand Land Transport Rule: Dangerous Goods - 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

HSNO Approval number	HSR002679
Group standard name	Surface Coatings and Colourants (Carcinogenic) Group Standard 2020
HSNO Hazard classification	Refer to Section 2: Hazard identification

NZ Inventory of Chemicals (NZIoC) Status

All applicable chemical ingredients in this material are in compliance with NZIoC listing requirements.

Controls in accordance with The Health and Safety at Work Act 2015, Health and Safety at Work (Hazardous Substances) Regulations 2017 and the HSNO Act 1996, Hazardous Substances (Hazardous Property Controls) Notice 2017

Certified handler	Not required
Location Compliance Certificate	Not required
Hazardous atmosphere zone	Not required
Fire extinguishers	Not required
Emergency response plan	100 L or 100 kg (for Hazardous to the aquatic environment Category 1 substances); or 1 000 L or 1 000 kg (for Acute toxicity Category 4, Skin sensitisation Category 1, Respiratory sensitisation Category 1, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for all other substances)
Secondary containment	100 L or 100 kg (for Hazardous to the aquatic environment Category 1 substances); or 1 000 L or 1 000 kg (for Acute toxicity Category 4, Skin sensitisation Category 1, Respiratory sensitisation Category 1, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for all other substances)
Tracking	Not required
Warning signage	100 L or 100 kg (for Hazardous to the aquatic environment Category 1

substances); or 1 000 L or 1 000 kg (for Serious eye damage Category 1, Hazardous to the aquatic environment Category 2 or Hazardous to the aquatic environment Category 3 substances); or 10 000 L or 10 000 kg (for Acute toxicity Category 4 or Hazardous to the aquatic environment Category 4 substances)

SECTION 16: Other information

Revision information:

Complete document review.

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Key to abbreviations and acronyms

GHS refers to the Globally Harmonised System of Classification and Labelling of Chemicals, 7th revised edition of 2017

HSNO means Hazardous Substances and New Organisms Act 1996

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