Safety Data Sheet

Document group:	28-8293-4	**Version number:**	3.00
Issue Date:	10/04/2018	**Supersedes date:**	05/09/2013

This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances and New Organisms Act 1996 (HSNO Act) and Regulations, as amended.

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.

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:

28-7650-6, 28-7666-2

TRANSPORT INFORMATION

NOT HAZARDOUS FOR TRANSPORT

Revision information:
New Zealand Kit Hazard Statements information was added.
New Zealand Kit Transportation Statement information was added.
Section 1: Product identification numbers information was modified.
Section 1: Product name information was modified.
Section 1: Product use information information was deleted.

US Section 01 Product Use - Recommended Use information was added.
Section 14: Marine Pollutant Technical Name information was added.
Section 14: Special Instructions ADG Group 1 information was added.
Section 14: Special Instructions IATA Group 1 information was added.
Section 14: Special Instructions IMDG Group 1 information was added.
Section 14: Transportation information information was deleted.

The information in this Safety Data Sheet (SDS) is believed to be correct as of the date of issue. TO THE EXTENT PERMITTED BY LAW, 3M MAKES NO WARRANTY, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluates the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application. 3M provides information in electronic form as a service to customers. Due to the remote possibility of electronic transfer may have resulted in errors, omissions or alterations in this information; 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M.

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

Safety Data Sheet

Document group:	28-7650-6	**Version number:**	3.00
Issue Date:	10/04/2018	**Supersedes date:**	05/09/2013

This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances and New Organisms Act 1996 (HSNO Act) and Regulations, as amended.

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

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

2.1. Classification of the substance or mixture

Classified as hazardous according to the New Zealand, Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 as amended.
Not Classified as a Dangerous Good according to NZS 5433:2012 Transport of Dangerous Goods on Land, UN, IMDG & IATA

HSNO classification
6.1E Acute toxicity
6.3A Irritating to the skin
6.4A Irritating to the eye
6.5A Respiratory sensitiser
6.5B Skin sensitiser
6.9A Toxic to human target organs/systems

9.3A Terrestrial vertebrate toxicity

2.2. Label elements
SIGNAL WORD
DANGER! WARNING!

Symbols:
Health Hazard | Exclamation mark |Environment |

Pictograms

HAZARD STATEMENTS:

H303	May be harmful if swallowed.
H335	May cause respiratory irritation.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H372	Causes damage to organs through prolonged or repeated exposure: respiratory system |
H431	Very toxic to terrestrial vertebrates.

PRECAUTIONARY STATEMENTS

Prevention:

P104	Read Safety Data Sheet before use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P285	In case of inadequate ventilation wear respiratory protection.
P280E	Wear protective gloves.
P273	Avoid release to the environment.

Response:

P304 + P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P331	Do NOT induce vomiting.
P312	Call a POISON CENTRE or doctor/physician if you feel unwell.
P391	Collect spillage.

Storage:

P405	Store locked up.

Disposal:

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

2.3. Other hazards
Persons previously sensitised to isocyanates may develop a cross-sensitisation 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	0 - 15
diundecyl phthalatye, branched and linear	85507-79-5	0 - 15
Methylenediphenyl diisocyanate	26447-40-5	< 2
4-Vinylcyclohexene	100-40-3	< 0.0005

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
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
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
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

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

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Contain spill. 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: HSNO Controls for more information.

7.1. Precautions for safe handling
For industrial or professional use only. 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. Approved handler test certificate
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
4-Vinylcyclohexene	100-40-3	ACGIH	TWA:0.1 ppm	A3: Confirmed animal carcinogen.
4-Vinylcyclohexene	100-40-3	AIHA	TWA:4.4 mg/m3(1 ppm)	
Free isocyanates	101-68-8	New Zealand WES	TWA(as NCO)(8 hours):0.02 mg/m3;STEL(as NCO)(15 minutes):0.07 mg/m3	Capable of csng resp/skin sens
Diphenylmethane-4,4'-diisocyanate	101-68-8	ACGIH	TWA:0.005 ppm	
Free isocyanates	26447-40-5	New Zealand WES	TWA(as NCO)(8 hours):0.02 mg/m3;STEL(as NCO)(15 minutes):0.07 mg/m3	Capable of csng resp/skin sens

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: Butyl rubber.
Fluoroelastomer
Polymer laminate

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

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece 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.
Appearance/Odour	Light straw coloured liquid with 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.*
Vapour 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	700 - 900 mPa-s
Average particle size	*No data available.*
Bulk density	*No data available.*
Molecular weight	*No data available.*
Softening point	*No data available.*
VOC less H2O & exempt solvents	10.5 g/l

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

No data available.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

Refer to Section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for 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
May be harmful if swallowed.
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 ATE2,000 - 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
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
4-Vinylcyclohexene	Dermal		LD50 estimated to be > 5,000 mg/kg
4-Vinylcyclohexene	Ingestion	Rat	LD50 6,300 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Diphenylmethane-4,4'-diisocyanate	official classification	Irritant
Methylenediphenyl diisocyanate	official classification	Irritant
4-Vinylcyclohexene	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
Diphenylmethane-4,4'-diisocyanate	official classification	Severe irritant
Methylenediphenyl diisocyanate	official classification	Severe irritant
4-Vinylcyclohexene	Rabbit	Mild irritant

Skin Sensitisation

Name	Species	Value
Diphenylmethane-4,4'-diisocyanate	official classification	Sensitising
Methylenediphenyl diisocyanate	official classification	Sensitising

Respiratory Sensitisation

Name	Species	Value
Diphenylmethane-4,4'-diisocyanate	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
Methylenediphenyl diisocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification
4-Vinylcyclohexene	In Vitro	Not mutagenic
4-Vinylcyclohexene	In vivo	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
Methylenediphenyl diisocyanate	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
4-Vinylcyclohexene	Ingestion	Mouse	Carcinogenic.

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
Methylenediphenyl diisocyanate	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
4-Vinylcyclohexene	Ingestion	Not classified for male reproduction	Mouse	NOAEL 500 mg/kg/day	13 weeks
4-Vinylcyclohexene	Ingestion	Toxic to female reproduction	Mouse	NOAEL 600 mg/kg/day	13 weeks
4-Vinylcyclohexene	Inhalation	Toxic to female reproduction	Mouse	NOAEL 1.1 mg/l	13 weeks

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	
Methylenediphenyl diisocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
4-Vinylcyclohexene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL NA	

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
Methylenediphenyl	Inhalation	respiratory system	Causes damage to organs through	Rat	LOAEL	13 weeks

diisocyanate			prolonged or repeated exposure		0.004 mg/l	
4-Vinylcyclohexene	Inhalation	liver | kidney and/or bladder	Not classified	Rat	NOAEL 4.4 mg/l	13 weeks
4-Vinylcyclohexene	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 800 mg/kg/day	13 weeks

Aspiration Hazard

Name	Value
4-Vinylcyclohexene	Aspiration hazard

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 terrestrial vertebrates
9.3A Terrestrial vertebrate 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			
Diphenylmethane-4,4'-diisocyanate	101-68-8	Water flea	Experimental	24 hours	EC50	>100 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 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	85507-79-5	Green algae	Estimated	72 hours	EC50	>100 mg/l

linear						
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	Water flea	Estimated		EC50	>100 mg/l
4-Vinylcyclohexene	100-40-3	Green algae	Experimental	72 hours	EC50	>4.1 mg/l
4-Vinylcyclohexene	100-40-3	Water flea	Experimental	48 days	EC50	1.9 mg/l
4-Vinylcyclohexene	100-40-3	Ricefish	Experimental	96 hours	LC50	4.6 mg/l
4-Vinylcyclohexene	100-40-3	Green algae	Experimental	72 hours	NOEC	2.2 mg/l
4-Vinylcyclohexene	100-40-3	Water flea	Experimental	21 days	NOEC	0.23 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 availbl-insufficient			N/A	
Diphenylmethane-4,4'-diisocyanate	101-68-8	Estimated Hydrolysis		Hydrolytic half-life	<2 hours (t 1/2)	Other methods
Diphenylmethane-4,4'-diisocyanate	101-68-8	Experimental 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)	Other methods
1,1'-Methylenebis[isocyanatobenzene], homopolymer	39310-05-9	Estimated Biodegradation	28 days	BOD	0 % weight	OECD 301C - MITI test (I)
Diundecyl phthalate	3648-20-2	Experimental Biodegradation	28 days	CO2 evolution	76 % weight	Other methods
diundecyl	85507-79-5	Experimental	28 days	CO2 evolution	66 % weight	OECD 301B - Modified

phthalatye, branched and linear		Biodegradation				sturm or CO2
Methylenediphenyl diisocyanate	26447-40-5	Estimated Hydrolysis		Hydrolytic half-life	<2 hours (t 1/2)	Other methods
Methylenediphenyl diisocyanate	26447-40-5	Estimated Biodegradation	28 days	BOD	0 % weight	OECD 301C - MITI test (I)
4-Vinylcyclohexene	100-40-3	Estimated Photolysis		Photolytic half-life (in air)	4.3 hours (t 1/2)	Other methods
4-Vinylcyclohexene	100-40-3	Experimental Biodegradation	28 days	BOD	0 % weight	OECD 301C - MITI test (I)

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-Carp	28 days	Bioaccumulation factor	200	Other methods
1,1'-Methylenebis[isocyanatobenzene], homopolymer	39310-05-9	Estimated BCF-Carp	28 days	Bioaccumulation factor	200	Other methods
Diundecyl phthalate	3648-20-2	Estimated Bioconcentration		Bioaccumulation factor	7.4	Estimated: Bioconcentration factor
diundecyl phthalatye, branched and linear	85507-79-5	Estimated Bioconcentration		Bioaccumulation factor	7.4	Estimated: Bioconcentration factor
Methylenediphenyl diisocyanate	26447-40-5	Estimated BCF-Carp	28 days	Bioaccumulation factor	200	Other methods
4-Vinylcyclohexene	100-40-3	Experimental BCF-Carp	56 days	Bioaccumulation factor	211	Other methods

12.4. Mobility in soil
Please contact manufacturer for more details

12.5 Other adverse effects
No information available.

SECTION 13: Disposal considerations

13.1. Disposal methods

See Section 11.1 Information on toxicological effects

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. 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 2006
HSNO Hazard classification	Refer to Section 2: Hazard identification

NZ Inventory of Chemicals (NZIoC) Status
All ingredients are listed on the New Zealand Inventory of Chemicals.

HSNO Controls

Approved handler test certificate	Not required
Location and transit Depot certification test	Not required
Hazardous atmosphere zone	Not required
Fire extinguishers	Not required
Emergency response plan	100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a

	HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for a HSNO 6.6A, 6.8A, 6.9A, 8.3A, 9.1D substance)
Secondary containment	100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for a HSNO 6.6A, 6.8A, 6.9A, 8.3A, 9.1D substance)
Tracking	Not required
Warning signage	100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a HSNO 8.3A, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for a HSNO 6.1D or 9.1D substance)

SECTION 16: Other information

Revision information:
No revision information is available.
Section 1: Product identification numbers information was deleted.
Section 1: Product name information was modified.
Section 1: Product use information information was deleted.
US Section 01 Product Use - Recommended Use information was added.
Section 2: Classification statements information was modified.
Section 2: NZ Classification statements (Transportation) information was modified.
HSNO Classification. information was added.
HSNO Classification. information was modified.
Environmental Hazard Statements information was added.
Section 2: NZ Health Hazard Statements information was modified.
Section 2: NZ Pictograms information was modified.
Section 2: NZ Precautionary Statements - General information was deleted.
Section 2: NZ Precautionary Statements - Prevention information was modified.
Section 2: NZ Precautionary Statements - Response information was modified.
Section 2: NZ Precautionary Statements - Storage information was modified.
Section 2: NZ Signal Word information was modified.
Section 2: NZ Symbols information was added.
Section 2: NZ Symbols information was modified.
Section 2: Ingredient table information was modified.
Section 4: First Aid - notes to physician (REACH/GHS) information was modified.
Section 4: First aid for inhalation information information was modified.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 6: Accidental release clean-up information information was modified.
Section 6: Accidental release environmental information information was modified.
Section 6: Accidental release personal information information was modified.
Section 7: Precautions safe handling information information was modified.
Section 7: Refer to Section 15 - HSNO control statement information was modified.
Section 8: Eye/face protection information information was modified.
Section 8: Eye/face protection text information was deleted.
Section 8: Occupational exposure limit table information was added.
Section 8: Occupational exposure limit table information was modified.
OEL Reg Agency Desc information was modified.
Section 8: Personal Protection - Eye information information was modified.
Section 8: Personal Protection - Respiratory Information information was added.
Section 8: Personal Protection - Skin/body information information was modified.
Section 8: Personal Protection - Skin/hand information information was modified.
Section 8: Respiratory protection - recommended respirators information information was modified.
Section 8: Respiratory protection - recommended respirators information was deleted.
Section 8: Skin protection - protective clothing information information was modified.
Section 8: Skin protection - protective clothing text information was deleted.
Section 8: Skin protection - recommended gloves information information was modified.

Section 9: Density information information was added.
Section 9: Property description for optional properties information was modified.
Section 9: Viscosity information information was modified.
Section 10: Hazardous decomposition products during combustion text information was modified.
Section 10: Materials and conditions to avoid physical property information was added.
Section 10: Other stability physical property information was added.
Section 11: Acute Toxicity table information was modified.
Section 11: Aspiration Hazard Table information was modified.
Section 11: Carcinogenicity Table information was modified.
Section 11: Disclosed components not in tables text information was added.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Health Effects - Ingestion information information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 11: Reproductive and/or Developmental Effects text information was added.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Respiratory Sensitization Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Ecotoxic to terrestrial vertebrates information was added.
Section 12: NZ Environmental terrestrial vertebrate information was added.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 13: 13.1. Waste disposal note information was modified.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 14: Class/Div Group 2 information was added.
Section 14: IERG Group 1 information was added.
Section 14: IERG Group 2 information was added.
Section 14: Marine Pollutant Technical Name information was added.
Section 14: Packing Group Group 1 information was added.
Section 14: Packing Group Group 2 information was added.
Section 14: Special Instructions ADG Group 1 information was added.
Section 14: Special Instructions Group 2 information was added.
Section 14: Special Instructions IATA Group 1 information was added.
Section 14: Special Instructions IATA Group 2 information was added.
Section 14: Special Instructions IMDG Group 1 information was added.
Section 14: Special Instructions IMDG Group 2 information was added.
Section 14: Transport Class/Div Group 1 information was added.
Section 14: Transportation information information was deleted.
Section 14: Transportation Sub Risk Group 1 information was added.
Section 14: Transportation Sub Risk Group 2 information was added.
Section 14: UN Number IATA Group 1 information was added.
Section 14: UN Number IATA Group 2 information was added.
Section 14: UN Number information was added.
Section 14: UN Proper Shipping Name Group 1 information was added.
Section 14: UN Proper Shipping Name Group 2 information was added.
Section 14: UN Proper Shipping Name IATA Group 1 information was added.
Section 14: UN Proper Shipping Name IATA Group 2 information was added.
Section 15: Approved Handler Test Certificate. information was modified.
Section 15: Emergency Response Plan. information was modified.
Section 15: Hazardous Atmosphere Zone. information was modified.
Section 15: HSNO approval number. information was modified.
Section 15: NZ Inventories information information was modified.

Section 15: Secondary Containment. information was modified.
Section 15: Warning Signage. information was modified.
Section 16: NZ reason for reissue information was added.

The information in this Safety Data Sheet (SDS) is believed to be correct as of the date of issue. TO THE EXTENT PERMITTED BY LAW, 3M MAKES NO WARRANTY, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluates the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application. 3M provides information in electronic form as a service to customers. Due to the remote possibility of electronic transfer may have resulted in errors, omissions or alterations in this information; 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M.

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

Safety Data Sheet

Document group:	28-7666-2	**Version number:**	3.00
Issue Date:	10/04/2018	**Supersedes date:**	05/09/2013

This Safety Data Sheet has been prepared in accordance with the New Zealand, Hazardous Substances and New Organisms Act 1996 (HSNO Act) and Regulations, as amended.

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

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

2.1. Classification of the substance or mixture

Classified as hazardous according to the New Zealand, Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 as amended.
Not Classified as a Dangerous Good according to NZS 5433:2012 Transport of Dangerous Goods on Land, UN, IMDG & IATA

HSNO classification
8.3A Corrosive to eye
6.7B Suspected human carcinogen
9.1D Aquatic toxicity
9.3C Terrestrial vertebrate toxicity

2.2. Label elements

SIGNAL WORD
DANGER!

Symbols:
Health Hazard | Corrosion |

Pictograms

HAZARD STATEMENTS:

H318	Causes serious eye damage.
H351	Suspected of causing cancer.
H402	Harmful to aquatic life.
H433	Harmful to terrestrial vertebrates.

PRECAUTIONARY STATEMENTS

Prevention:

P104	Read Safety Data Sheet before use.
P280A	Wear eye/face protection.
P281	Use personal protective equipment as required.
P273	Avoid release to the environment.

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 phthalatye, 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
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
No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

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

6.2. Environmental precautions
Avoid release to the environment. 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: HSNO 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. Approved handler test certificate
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	New Zealand WES	TWA(8 hours): 3 mg/m3	Class-subclass 6.7, carc HCB
Carbon black	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m3	A3: Confirmed animal carcinogen.
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/m^3: 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.
Appearance/Odour	Smooth black liquid with 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]
Vapour 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	5,500 mPa-s
Molecular weight	*No data available.*

VOC less H2O & exempt solvents 12.9 g/l

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

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. 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
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 > 5,010 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
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

Name	Species	Value
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

Skin Sensitisation

Name	Species	Value
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
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
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
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
Octadecyl 3-(3,5-di-tert-butyl-4-	Ingestion	liver | kidney and/or bladder | heart |	Not classified	Rat	NOAEL 300 mg/kg/day	28 days

hydroxyphenyl)propionate		endocrine system | respiratory system				
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.
9.1D Aquatic toxicity

Ecotoxic to terrestrial vertebrates
9.3C Terrestrial vertebrate toxicity

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			
1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene]	84852-53-9	Rainbow trout	Experimental	96 hours	LC50	>100 mg/l
1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene]	84852-53-9	Water flea	Experimental	48 hours	Effect Level 50%	>100 mg/l
1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene]	84852-53-9	Green algae	Experimental	96 hours	Effect Level 50%	>100 mg/l
1,1'-(Ethane-1,2-diyl)bis[pentabromobenzene]	84852-53-9	Green algae	Experimental	96 hours	No obs Effect Level	>100 mg/l
diundecyl phthalatye, branched and linear	85507-79-5	Sheepshead Minnow	Estimated	96 hours	LC50	>100 mg/l
diundecyl phthalatye,	85507-79-5	Green algae	Estimated	72 hours	EC50	>100 mg/l

branched and linear						
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	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
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	96 hours	EC50	>100 mg/l
Silicic acid, aluminum potassium sodium salt	12736-96-8	Water flea	Estimated	21 days	NOEC	>100 mg/l
Silicic acid, aluminum potassium sodium salt	12736-96-8	Green algae	Estimated	72 hours	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	Water flea	Estimated	21 days	NOEC	2.32 mg/l
Diantimony pentoxide	1314-60-9	Green algae	Estimated	72 hours	NOEC	2.8 mg/l
Diantimony pentoxide	1314-60-9	Fathead minnow	Estimated	28 days	NOEC	1.5 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			
Polypropylene ether diol	25322-69-4	Zebra Fish	Experimental	96 hours	LC50	>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	Green algae	Experimental	72 hours	EC50	>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	Water flea	Experimental	48 hours	EC50	>100 mg/l
Dipropylene glycol	25265-71-8	Green algae	Experimental	72 hours	EC50	>100 mg/l
Dipropylene glycol	25265-71-8	Green algae	Experimental	72 hours	NOEC	100 mg/l
Carbon black	1333-86-4		Data not available or insufficient for classification			
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	Bluegill	Experimental	96 hours	LC50	>100 mg/l
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	Water flea	Experimental	24 hours	EC50	>100 mg/l
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	Green algae	Experimental	72 hours	EC50	>100 mg/l
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	Water flea	Experimental	21 days	NOEC	>100 mg/l
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	Green algae	Experimental	72 hours	NOEC	>100 mg/l
Silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica	68909-20-6	Algae	Estimated	72 hours	EC50	>100 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	EC50	180 mg/l
1,4-diazabicyclooctane	280-57-9	Common Carp	Experimental	96 hours	LC50	>100 mg/l
1,4-	280-57-9	Green Algae	Experimental	72 hours	Effect	79 mg/l

diazabicyclooctane					Concentration 10%	

12.2. Persistence and degradability

Material	CAS Number	Test type	Duration	Study Type	Test result	Protocol
Homopolymer	69102-90-5	Data not availbl-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)
diundecyl phthalatye, branched and linear	85507-79-5	Experimental Biodegradation	28 days	CO2 evolution	66 % weight	OECD 301B - Modified sturm or CO2
Silicic acid, aluminum potassium sodium salt	12736-96-8	Data not availbl-insufficient			N/A	
Diantimony pentoxide	1314-60-9	Data not availbl-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
Carbon black	1333-86-4	Data not availbl-insufficient			N/A	
Octadecyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	2082-79-3	Experimental Biodegradation	28 days	BOD	31 % weight	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	
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
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	Other methods
diundecyl phthalatye, branched and linear	85507-79-5	Estimated Bioconcentration		Bioaccumulation factor	7.4	Estimated: Bioconcentration factor
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	Other methods
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	Other methods
Dipropylene glycol	25265-71-8	Experimental BCF-Carp	42 days	Bioaccumulation factor	4.6	OECD 305E - Bioaccumulation flow-through fish test
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-Carp	42 days	Bioaccumulation factor	<12	Other methods
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
See Section 11.1 Information on toxicological effects

Incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, utilize an acceptable permitted waste disposal facility. 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 (Toxic [6.7]) Group Standard 2006
HSNO Hazard classification	Refer to Section 2: Hazard identification

NZ Inventory of Chemicals (NZIoC) Status

All ingredients are listed on the New Zealand Inventory of Chemicals.

HSNO Controls

Approved handler test certificate	Not required
Location and transit Depot certification test	Not required
Hazardous atmosphere zone	Not required
Fire extinguishers	Not required
Emergency response plan	100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for all other substances)
Secondary containment	100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a HSNO 6.1D, 6.5A, 6.5B, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for all other substances)
Tracking	Not required
Warning signage	100 L or 100 kg (for a HSNO 9.1A substance); or 1,000 L or 1,000 kg (for a HSNO 8.3A, 9.1B or 9.1C substance); or 10,000 L or 10,000 kg (for a HSNO 6.1D or 9.1D substance)

SECTION 16: Other information

Revision information:
No revision information is available.
Section 1: Product identification numbers information was deleted.
Section 1: Product use information information was deleted.
US Section 01 Product Use - Recommended Use information was added.
Section 2: Classification statements information was modified.
Section 2: NZ Classification statements (Transportation) information was modified.
HSNO Classification. information was modified.
Environmental Hazard Statements information was modified.
Section 2: NZ Health Hazard Statements information was modified.
Section 2: NZ Precautionary Statements - Prevention information was modified.
Section 2: NZ Precautionary Statements - Response information was modified.
Section 2: Ingredient table information was modified.
Section 5: Fire - Advice for fire fighters information information was modified.
Section 6: Accidental release clean-up information information was modified.
Section 6: Accidental release personal information information was modified.
Section 7: Refer to Section 15 - HSNO control statement information was modified.
Section 8: Eye/face protection information information was modified.
Section 8: Eye/face protection text information was deleted.
Section 8: Occupational exposure limit table information was added.
Section 8: Occupational exposure limit table information was modified.
OEL Reg Agency Desc information was modified.
Section 8: Personal Protection - Eye information information was modified.
Section 8: Personal Protection - Respiratory Information information was modified.
Section 8: Personal Protection - Skin/hand information information was modified.
Section 8: Respiratory protection - recommended respirators information information was modified.
Section 8: Respiratory protection - recommended respirators information was deleted.
Section 8: Skin protection - protective clothing text information was deleted.
Section 8: Skin protection - recommended gloves information information was deleted.
Section 8: Skin protection - recommended gloves text information was deleted.
Section 9: Property description for optional properties information was modified.
Section 9: Viscosity information information was modified.
Section 10: Hazardous decomposition products during combustion text information was modified.
Section 11: Acute Toxicity table information was modified.
Section 11: Aspiration Hazard Table information was deleted.

Section 11: Aspiration Hazard text information was added.
Section 11: Carcinogenicity Table information was modified.
Section 11: Disclosed components not in tables text information was added.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Health Effects - Ingestion information information was modified.
Section 11: Health Effects - Inhalation information information was modified.
Section 11: Reproductive and/or Developmental Effects text information was added.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Respiratory Sensitization Table information was deleted.
Section 11: Respiratory Sensitization text information was added.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Specific Target Organ Toxicity - single exposure text information was added.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was deleted.
Section 12: Component ecotoxicity information information was modified.
Section 12: NZ Environmental aquatic information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 13: 13.1. Waste disposal note information was modified.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 14: Class/Div Group 2 information was added.
Section 14: IERG Group 1 information was added.
Section 14: IERG Group 2 information was added.
Section 14: Marine Pollutant Technical Name information was added.
Section 14: Packing Group Group 1 information was added.
Section 14: Packing Group Group 2 information was added.
Section 14: Special Instructions ADG Group 1 information was added.
Section 14: Special Instructions Group 2 information was added.
Section 14: Special Instructions IATA Group 1 information was added.
Section 14: Special Instructions IATA Group 2 information was added.
Section 14: Special Instructions IMDG Group 1 information was added.
Section 14: Special Instructions IMDG Group 2 information was added.
Section 14: Transport Class/Div Group 1 information was added.
Section 14: Transportation information information was deleted.
Section 14: Transportation Sub Risk Group 1 information was added.
Section 14: Transportation Sub Risk Group 2 information was added.
Section 14: UN Number IATA Group 1 information was added.
Section 14: UN Number IATA Group 2 information was added.
Section 14: UN Number information was added.
Section 14: UN Proper Shipping Name Group 1 information was added.
Section 14: UN Proper Shipping Name Group 2 information was added.
Section 14: UN Proper Shipping Name IATA Group 1 information was added.
Section 14: UN Proper Shipping Name IATA Group 2 information was added.
Section 15: NZ Inventories information information was added.
Section 16: NZ reason for reissue information was added.

The information in this Safety Data Sheet (SDS) is believed to be correct as of the date of issue. TO THE EXTENT PERMITTED BY LAW, 3M MAKES NO WARRANTY, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluates the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application. 3M provides information in electronic form as a service to customers. Due to the remote possibility of electronic

transfer may have resulted in errors, omissions or alterations in this information; 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the SDS available directly from 3M.

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