Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the SS586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods.

Document group:	19-8502-7	**Version number:**	1.07
Issue Date:	15/12/2023	**Supersedes date:**	13/09/2023

IDENTIFICATION

1.1. Product identifier
3M™Scotch-Weld™ Epoxy Adhesive DP100FR Cream

1.2. Recommended use and restrictions on use

Recommended use
Structural adhesive.

1.3. Supplier's details

Address:	3M Technologies (S) Pte Ltd,10 Ang Mo Kio Street 65, Singapore 569059
Telephone:	+65 6450 8888
Website:	www.3m.com.sg

1.4. Emergency telephone number

Company Emergency Hotline: +65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

This product is a kit or a multipart product which consists of multiple, independently packaged components. An SDS for each of these components is included. Please do not separate the component SDSs from this cover page. The document numbers of the SDSs for components of this product are:

19-8211-5, 19-8269-3

TRANSPORT INFORMATION

International Regulations

UN No.: None assigned
UN Proper shipping name: None assigned
Transportation Class (IMO): None assigned
Transportation Class (IATA): None assigned
Other Dangerous Goods Descriptions (IMO): Not restricted, as per IMDG code 2.10.2.7, marine pollutant exception.
Other Dangerous Goods Descriptions (IATA): Not restricted, as per Special Provision A197, environmentally hazardous substance exception.
Packing Group: None assigned
Marine pollutant: None assigned

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M Singapore SDSs are available at www.3m.com.sg

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Issue Date:	29/08/2024	**Supersedes date:**	15/12/2023

SECTION 1: Identification

1.1. Product identifier
3M™ Scotch-Weld™ Epoxy Adhesive DP100FR Cream, Part A

1.2. Recommended use and restrictions on use

Recommended use
Structural adhesive., Structural adhesive.

1.3. Supplier's details
Address: 3M Technologies (S) Pte Ltd,10 Ang Mo Kio Street 65, Singapore 569059
Telephone: +65 6450 8888
Website: www.3m.com.sg

1.4. Emergency telephone number
+65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Acute Toxicity (oral): Category 4.
Skin Corrosion/Irritation: Category 2.
Serious Eye Damage/Irritation: Category 2.
Skin Sensitizer: Category 1.

2.2. Label elements
SIGNAL WORD
WARNING!

Symbols
Exclamation mark |

Pictograms



HAZARD STATEMENTS

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.

PRECAUTIONARY STATEMENTS

Prevention:

P280E	Wear protective gloves.

Response:

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

2.3. Other hazards

A similar mixture has been tested for eye damage/irritation and the test results are reflected in the assigned classification. A similar mixture has been tested for skin corrosion/irritation and the test results are reflected in the assigned classification.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Mercaptan Polymer	72244-98-5	65 - 75
Ammonium Polyphosphate	68333-79-9	10 - 30
2,4,6-tris((Dimethylamino)Methyl)Phenol	90-72-2	5 - 10
Silane, trimethoxyoctyl-, hydrolysis products with silica	67762-90-7	1 - 5
bis((Dimethylamino)Methyl)Phenol	71074-89-0	0.1 - 5
Melamine	108-78-1	< 0.5

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

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

Skin contact

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye contact

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If swallowed

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

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

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

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

SECTION 5: Fire-fighting measures

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

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

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes.	During combustion.
Hydrocarbons.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Ketones.	During combustion.
Ammonia	During combustion.
Oxides of nitrogen.	During combustion.
Oxides of sulphur.	During combustion.
Toxic vapour, gas, particulate.	During combustion.

5.3. Special protective actions for fire-fighters
Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

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

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

6.3. Methods and material for containment and cleaning up
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial/occupational use only. Not for consumer sale or use. 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. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
Store away from heat. Store away from oxidising agents.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Melamine	108-78-1	AIHA	TWA(inhalable particulates):3 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
Singapore PELs : Singapore. Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

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

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

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

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

Respiratory protection

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

respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Viscous Liquid
Color	White
Odor	Strong Mercaptan
Odour threshold	*No data available.*
pH	*Not applicable.*
Melting point/Freezing point	*Not applicable.*
Boiling point/Initial boiling point/Boiling range	*No data available.*
Flash point	> 93.9 ºC [*Test Method:*Closed Cup]
Evaporation rate	Negligible
Flammability	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	<=186,158.4 Pa [@ 55 ºC]
Vapor Density and/or Relative Vapor Density	*Not applicable.*
Density	1.3 g/ml [*Ref Std:*WATER=1]
Relative density	1.3 [*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.*
Kinematic Viscosity	50,000 mm²/sec
VOC less H2O & exempt solvents	0 g/l [*Test Method:*calculated SCAQMD rule 443.1] [*Details:*when used as intended with Part B]
VOC less H2O & exempt solvents	0 g/l [*Test Method:*calculated SCAQMD rule 443.1] [*Details:*as supplied]
VOC less H2O & exempt solvents	0 % [*Test Method:*calculated SCAQMD rule 443.1] [*Details:*when used as intended with Part B]
Molecular weight	*No data available.*

Particle Characteristics	*Not applicable.*

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
Heat.
Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

10.5 Incompatible materials
Strong oxidising agents.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

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

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

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

Ingestion
Harmful if swallowed.
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.
May cause additional health effects (see below).

Additional Health Effects:

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

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	Ingestion		No data available; calculated ATE >300 - =2,000 mg/kg
Mercaptan Polymer	Dermal	Rabbit	LD50 > 10,200 mg/kg
Mercaptan Polymer	Ingestion	Rat	LD50 2,600 mg/kg
Ammonium Polyphosphate	Dermal	Rat	LD50 > 5,000 mg/kg
Ammonium Polyphosphate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4.85 mg/l
Ammonium Polyphosphate	Ingestion	Rat	LD50 > 300, < 2,000 mg/kg
2,4,6-tris((Dimethylamino)Methyl)Phenol	Dermal	Rat	LD50 1,280 mg/kg
2,4,6-tris((Dimethylamino)Methyl)Phenol	Ingestion	Rat	LD50 1,000 mg/kg
Silane, trimethoxyoctyl-, hydrolysis products with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Silane, trimethoxyoctyl-, hydrolysis products with silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Silane, trimethoxyoctyl-, hydrolysis products with silica	Ingestion	Rat	LD50 > 5,110 mg/kg
bis((Dimethylamino)Methyl)Phenol	Ingestion		LD50 estimated to be 300 - 2,000 mg/kg
Melamine	Dermal	Rabbit	LD50 > 1,000 mg/kg
Melamine	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.19 mg/l
Melamine	Ingestion	Rat	LD50 3,161 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	In vitro data	Irritant
Mercaptan Polymer	Rabbit	No significant irritation
Ammonium Polyphosphate	In vitro data	No significant irritation
2,4,6-tris((Dimethylamino)Methyl)Phenol	Rabbit	Corrosive
Silane, trimethoxyoctyl-, hydrolysis products with silica	Rabbit	No significant irritation
bis((Dimethylamino)Methyl)Phenol	similar compounds	Corrosive
Melamine	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	In vitro data	Severe irritant
Mercaptan Polymer	Rabbit	Mild irritant
Ammonium Polyphosphate	Rabbit	Moderate irritant
2,4,6-tris((Dimethylamino)Methyl)Phenol	Rabbit	Corrosive
Silane, trimethoxyoctyl-, hydrolysis products with silica	Rabbit	No significant irritation
bis((Dimethylamino)Methyl)Phenol	similar compounds	Corrosive
Melamine	Rabbit	No significant irritation

Sensitization:

Skin Sensitisation

Name	Species	Value
Mercaptan Polymer	Mouse	Sensitising
Ammonium Polyphosphate	similar compounds	Not classified
2,4,6-tris((Dimethylamino)Methyl)Phenol	Guinea pig	Not classified
Silane, trimethoxyoctyl-, hydrolysis products with silica	Human and animal	Not classified
Melamine	Guinea pig	Not classified

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
Mercaptan Polymer	In Vitro	Not mutagenic
2,4,6-tris((Dimethylamino)Methyl)Phenol	In Vitro	Not mutagenic
Silane, trimethoxyoctyl-, hydrolysis products with silica	In Vitro	Not mutagenic
Melamine	In Vitro	Not mutagenic
Melamine	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Silane, trimethoxyoctyl-, hydrolysis products with silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
Melamine	Ingestion	Multiple animal species	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
2,4,6-tris((Dimethylamino)Methyl)Phenol	Ingestion	Not classified for male reproduction	Rat	NOAEL 150 mg/kg/day	2 generation
2,4,6-tris((Dimethylamino)Methyl)Phenol	Ingestion	Not classified for female reproduction	Rat	NOAEL 50 mg/kg/day	2 generation
2,4,6-tris((Dimethylamino)Methyl)Phenol	Ingestion	Not classified for development	Rabbit	NOAEL 15 mg/kg/day	during gestation
Silane, trimethoxyoctyl-, hydrolysis products with silica	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Silane, trimethoxyoctyl-, hydrolysis products with silica	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Silane, trimethoxyoctyl-, hydrolysis products with silica	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
Melamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,227 mg/kg/day	2 generation
Melamine	Ingestion	Not classified for development	Rat	NOAEL 1,060 mg/kg/day	during organogenesis
Melamine	Ingestion	Toxic to male reproduction	Rat	NOAEL 89 mg/kg/day	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Ammonium Polyphosphate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
2,4,6-tris((Dimethylamino)Methyl)Phenol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Mercaptan Polymer	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 75 mg/kg/day	90 days
Mercaptan Polymer	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 250 mg/kg/day	90 days
Mercaptan Polymer	Ingestion	endocrine system | heart | skin | immune system | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days
2,4,6-tris((Dimethylamino)Methyl)Phenol	Dermal	skin	Not classified	Rat	NOAEL 25 mg/kg/day	4 weeks
2,4,6-tris((Dimethylamino)Methyl)Phenol	Dermal	liver | nervous system | auditory system | hematopoietic system | eyes	Not classified	Rat	NOAEL 125 mg/kg/day	4 weeks
2,4,6-tris((Dimethylamino)Methyl)Phenol	Ingestion	heart | endocrine system | hematopoietic system | liver | muscles | nervous system | kidney and/or bladder | respiratory system | vascular system | auditory system | skin | gastrointestinal tract | bone, teeth, nails, and/or hair | immune system | eyes	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
Silane, trimethoxyoctyl-, hydrolysis products with silica	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
Melamine	Ingestion	kidney and/or bladder	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 44.6 mg/kg/day	90 days
Melamine	Ingestion	heart | skin | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | muscles | nervous system | respiratory system	Not classified	Rat	NOAEL 1,400 mg/kg/day	90 days

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

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

SECTION 12: Ecological information

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

12.1. Toxicity

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

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

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Mercaptan Polymer	72244-98-5	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
Mercaptan Polymer	72244-98-5	Green algae	Experimental	72 hours	EC50	>733 mg/l
Mercaptan Polymer	72244-98-5	Water flea	Experimental	48 hours	EC50	12 mg/l
Mercaptan Polymer	72244-98-5	Zebra Fish	Experimental	96 hours	LC50	87 mg/l
Mercaptan Polymer	72244-98-5	Green algae	Experimental	72 hours	NOEC	338 mg/l
Mercaptan Polymer	72244-98-5	Water flea	Experimental	21 days	NOEC	3.5 mg/l
Ammonium Polyphosphate	68333-79-9	Activated sludge	Estimated	3 hours	EC50	>100 mg/l
Ammonium Polyphosphate	68333-79-9	Green algae	Estimated	72 hours	EC50	>97.1 mg/l
Ammonium Polyphosphate	68333-79-9	Rainbow trout	Estimated	96 hours	LC50	>100 mg/l
Ammonium Polyphosphate	68333-79-9	Water flea	Estimated	48 hours	EC50	>100 mg/l
Ammonium Polyphosphate	68333-79-9	Green algae	Estimated	72 hours	NOEC	97.1 mg/l
2,4,6-tris((Dimethylamino)Methyl)Phenol	90-72-2	N/A	Experimental	96 hours	LC50	718 mg/l
2,4,6-tris((Dimethylamino)Methyl)Phenol	90-72-2	Common Carp	Experimental	96 hours	LC50	>100 mg/l
2,4,6-tris((Dimethylamino)Methyl)Phenol	90-72-2	Green algae	Experimental	72 hours	EC50	46.7 mg/l
2,4,6-tris((Dimethylamino)Methyl)Phenol	90-72-2	Water flea	Experimental	48 hours	EC50	>100 mg/l
2,4,6-tris((Dimethylamino)Methyl)Phenol	90-72-2	Green algae	Experimental	72 hours	NOEC	6.44 mg/l
Silane, trimethoxyoctyl-, hydrolysis products with silica	67762-90-7	N/A	Data not available or insufficient for classification	N/A	N/A	N/A
bis((Dimethylamino)Methyl)Phenol	71074-89-0	N/A	Data not available or insufficient for	N/A	N/A	NA

			classification			
Melamine	108-78-1	Green algae	Experimental	96 hours	EC50	325 mg/l
Melamine	108-78-1	Guppy	Experimental	96 hours	LC50	>3,000 mg/l
Melamine	108-78-1	Water flea	Experimental	48 hours	EC50	48 mg/l
Melamine	108-78-1	Fathead minnow	Experimental	36 days	NOEC	5.1 mg/l
Melamine	108-78-1	Green algae	Experimental	96 hours	NOEC	98 mg/l
Melamine	108-78-1	Water flea	Experimental	21 days	NOEC	11 mg/l
Melamine	108-78-1	Activated sludge	Experimental	30 minutes	EC20	>1,992 mg/l
Melamine	108-78-1	Bacteria	Experimental	30 minutes	EC50	>10,000 mg/l
Melamine	108-78-1	Barley	Experimental	4 days	EC50	530 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Mercaptan Polymer	72244-98-5	Experimental Biodegradation	28 days	CO2 evolution	5 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Ammonium Polyphosphate	68333-79-9	Data not available-insufficient	N/A	N/A	N/A	N/A
2,4,6-tris((Dimethylamino)Methyl)Phenol	90-72-2	Experimental Biodegradation	28 days	BOD	4 %BOD/ThOD	OECD 301D - Closed bottle test
Silane, trimethoxyoctyl-, hydrolysis products with silica	67762-90-7	Data not available-insufficient	N/A	N/A	N/A	N/A
bis((Dimethylamino)Methyl)Phenol	71074-89-0	Modeled Biodegradation	28 days	BOD	41 %CO2 evolution/THCO2 evolution	Catalogic™
Melamine	108-78-1	Experimental Biodegradation	14 days	BOD	0 %BOD/ThOD	OECD 301C - MITI test (I)
Melamine	108-78-1	Experimental Aquatic Inherent Biodegrad.	28 days	Dissolv. Organic Carbon Deplet	0 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
Melamine	108-78-1	Experimental Soil Metabolism Aerobic		Half-life (t 1/2)	2-3 years (t 1/2)	

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Mercaptan Polymer	72244-98-5	Estimated Bioconcentration		Log Kow	>1.2	
Ammonium Polyphosphate	68333-79-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2,4,6-tris((Dimethylamino)Methyl)Phenol	90-72-2	Experimental Bioconcentration		Log Kow	-0.66	830.7550 Part.Coef Shake Flask
Silane, trimethoxyoctyl-, hydrolysis products with silica	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
bis((Dimethylamino)Methyl)Phenol	71074-89-0	Modeled Bioconcentration		Log Kow	-2.34	ACD/Labs ChemSketch™
Melamine	108-78-1	Experimental BCF - Fish	42 days	Bioaccumulation factor	<3.8	OECD305-Bioconcentration
Melamine	108-78-1	Experimental Bioconcentration		Log Kow	-1.14	EC A.8 Partition Coefficient

12.4. Mobility in soil
Please contact manufacturer for more details

12.5 Other adverse effects
No information available.

SECTION 13: Disposal considerations

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

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

SECTION 14: Transport Information

International Regulations

UN No.: Not restricted for transport.
UN Proper shipping name: Not restricted for transport.

Transportation Class (IMO): None assigned
Transportation Class (IATA): None assigned
Other Dangerous Goods Descriptions (IMO): None assigned
Other Dangerous Goods Descriptions (IATA): None assigned
Packing Group: None assigned
Marine pollutant: None assigned

SECTION 15: Regulatory information

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

Global inventory status
Contact 3M for more information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

This product may contain component(s) that are regulated by the following:
Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations: this product is subject to SDS, labelling, PEL and other requirements in the Act/Regulations.

SECTION 16: Other information

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use

(except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M Singapore SDSs are available at www.3m.com.sg

Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the SS586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods.

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SECTION 1: Identification

1.1. Product identifier
3M™ Scotch-Weld™ Epoxy Adhesive DP100FR Cream, Part B

1.2. Recommended use and restrictions on use

Recommended use
Adhesive, Structural adhesive.

1.3. Supplier's details
Address: 3M Technologies (S) Pte Ltd,10 Ang Mo Kio Street 65, Singapore 569059
Telephone: +65 6450 8888
Website: www.3m.com.sg

1.4. Emergency telephone number
+65 6591 6601 (8.15am - 5.00pm, Monday - Friday)

SECTION 2: Hazard identification

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

2.2. Label elements
SIGNAL WORD
WARNING!

Symbols
Exclamation mark |Environment |

Pictograms



HAZARD STATEMENTS

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

PRECAUTIONARY STATEMENTS

Prevention:

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

Response:

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

2.3. Other hazards

Although titanium dioxide is classified as a carcinogen, exposures associated with this health effect are not expected during normal, intended use of this product.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Epoxy resin	25068-38-6	68 - 80
Ammonium Polyphosphate	68333-79-9	10 - 30
Titanium dioxide	13463-67-7	1 - 5
Melamine	108-78-1	<= 0.5

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

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

Skin contact

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye contact

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If swallowed

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

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

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

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

Not applicable

SECTION 5: Fire-fighting measures

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

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

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes.	During combustion.
Hydrocarbons.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Hydrogen Chloride	During combustion.
Ketones.	During combustion.
Ammonia	During combustion.
Oxides of nitrogen.	During combustion.
Toxic vapour, gas, particulate.	During combustion.

5.3. Special protective actions for fire-fighters
Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS. Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice.

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

6.3. Methods and material for containment and cleaning up
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial/occupational use only. Not for consumer sale or use. 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. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
Store away from heat. Store away from acids. Store away from oxidising agents.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Melamine	108-78-1	AIHA	TWA(inhalable particulates):3 mg/m3	
Titanium dioxide	13463-67-7	ACGIH	TWA(Respirable nanoscale particles):0.2 mg/m3;TWA(Respirable finescale particles):2.5 mg/m3	A3: Confirmed animal carcin.
Titanium dioxide	13463-67-7	Singapore PELs	TWA(8 hours):10 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
Singapore PELs : Singapore. Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

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

8.2.2. Personal protective equipment (PPE)

Eye/face protection

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

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

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an

Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates
Half facepiece or full facepiece supplied-air respirator

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Viscous Liquid
Color	White
Odor	Mild Epoxy
Odour threshold	*No data available.*
pH	*No data available.*
Melting point/Freezing point	*Not applicable.*
Boiling point/Initial boiling point/Boiling range	*No data available.*
Flash point	> 93.9 ºC [@ 101,325 Pa] [*Test Method:*Closed Cup]
Evaporation rate	Negligible
Flammability	Not applicable.
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	*No data available.*
Relative Vapor Density	*No data available.*
Density	1.2 g/ml [*Ref Std:*WATER=1]
Relative density	1.2 [*Ref Std:*WATER=1]
Water solubility	Negligible
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
Kinematic Viscosity	58,333 mm²/sec
VOC less H2O & exempt solvents	0 g/l [*Test Method:*calculated SCAQMD rule 443.1] [*Details:*when used as intended with Part A]
VOC less H2O & exempt solvents	0 g/l [*Test Method:*calculated SCAQMD rule 443.1] [*Details:*as supplied]
VOC less H2O & exempt solvents	0 % [*Test Method:*calculated SCAQMD rule 443.1] [*Details:*when used as intended with Part A]
Molecular weight	*No data available.*

Particle Characteristics	*Not applicable.*

SECTION 10: Stability and reactivity

10.1 Reactivity

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

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
Heat.
Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

10.5 Incompatible materials
Strong acids.
Strong oxidising agents.

10.6 Hazardous decomposition products

Substance	Condition
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

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

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

Eye contact
Moderate eye irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion
May be harmful if swallowed.
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

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	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
Epoxy resin	Dermal	Rat	LD50 > 1,600 mg/kg
Epoxy resin	Ingestion	Rat	LD50 > 1,000 mg/kg
Ammonium Polyphosphate	Dermal	Rat	LD50 > 5,000 mg/kg
Ammonium Polyphosphate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4.85 mg/l
Ammonium Polyphosphate	Ingestion	Rat	LD50 > 300, < 2,000 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Melamine	Dermal	Rabbit	LD50 > 1,000 mg/kg
Melamine	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.19 mg/l
Melamine	Ingestion	Rat	LD50 3,161 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Epoxy resin	Rabbit	Mild irritant
Ammonium Polyphosphate	In vitro data	No significant irritation
Titanium dioxide	Rabbit	No significant irritation
Melamine	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Epoxy resin	Rabbit	Moderate irritant
Ammonium Polyphosphate	Rabbit	Moderate irritant
Titanium dioxide	Rabbit	No significant irritation
Melamine	Rabbit	No significant irritation

Sensitization:

Skin Sensitisation

Name	Species	Value
Epoxy resin	Human and animal	Sensitising
Ammonium Polyphosphate	similar compounds	Not classified

Titanium dioxide	Human and animal	Not classified
Melamine	Guinea pig	Not classified

Respiratory Sensitisation

Name	Species	Value
Epoxy resin	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Epoxy resin	In vivo	Not mutagenic
Epoxy resin	In Vitro	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
Melamine	In Vitro	Not mutagenic
Melamine	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Epoxy resin	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.
Melamine	Ingestion	Multiple animal species	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Epoxy resin	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy resin	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy resin	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Epoxy resin	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Melamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,227 mg/kg/day	2 generation
Melamine	Ingestion	Not classified for development	Rat	NOAEL 1,060 mg/kg/day	during organogenesis
Melamine	Ingestion	Toxic to male reproduction	Rat	NOAEL 89 mg/kg/day	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Ammonium Polyphosphate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for	similar health	NOAEL Not available	

			classification	hazards		

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Epoxy resin	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Epoxy resin	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Epoxy resin	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
Melamine	Ingestion	kidney and/or bladder	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 44.6 mg/kg/day	90 days
Melamine	Ingestion	heart | skin | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | muscles | nervous system | respiratory system	Not classified	Rat	NOAEL 1,400 mg/kg/day	90 days

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

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

SECTION 12: Ecological information

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

12.1. Toxicity

Acute aquatic hazard:
GHS Acute 2: Toxic to aquatic life.

Chronic aquatic hazard:
GHS Chronic 2: Toxic to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Epoxy resin	25068-38-6	Activated sludge	Estimated	3 hours	IC50	>100 mg/l
Epoxy resin	25068-38-6	Green algae	Estimated	72 hours	EC50	>11 mg/l
Epoxy resin	25068-38-6	Rainbow trout	Estimated	96 hours	LC50	2 mg/l
Epoxy resin	25068-38-6	Water flea	Estimated	48 hours	EC50	1.8 mg/l
Epoxy resin	25068-38-6	Green algae	Estimated	72 hours	NOEC	4.2 mg/l
Epoxy resin	25068-38-6	Water flea	Estimated	21 days	NOEC	0.3 mg/l
Ammonium Polyphosphate	68333-79-9	Activated sludge	Estimated	3 hours	EC50	>100 mg/l
Ammonium Polyphosphate	68333-79-9	Green algae	Estimated	72 hours	EC50	>97.1 mg/l
Ammonium Polyphosphate	68333-79-9	Rainbow trout	Estimated	96 hours	LC50	>100 mg/l
Ammonium Polyphosphate	68333-79-9	Water flea	Estimated	48 hours	EC50	>100 mg/l
Ammonium Polyphosphate	68333-79-9	Green algae	Estimated	72 hours	NOEC	97.1 mg/l
Titanium dioxide	13463-67-7	Activated sludge	Experimental	3 hours	NOEC	>=1,000 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	EC50	>10,000 mg/l
Titanium dioxide	13463-67-7	Fathead minnow	Experimental	96 hours	LC50	>100 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Diatom	Experimental	72 hours	NOEC	5,600 mg/l
Melamine	108-78-1	Green algae	Experimental	96 hours	EC50	325 mg/l
Melamine	108-78-1	Guppy	Experimental	96 hours	LC50	>3,000 mg/l
Melamine	108-78-1	Water flea	Experimental	48 hours	EC50	48 mg/l
Melamine	108-78-1	Fathead minnow	Experimental	36 days	NOEC	5.1 mg/l
Melamine	108-78-1	Green algae	Experimental	96 hours	NOEC	98 mg/l
Melamine	108-78-1	Water flea	Experimental	21 days	NOEC	11 mg/l
Melamine	108-78-1	Activated sludge	Experimental	30 minutes	EC20	>1,992 mg/l
Melamine	108-78-1	Bacteria	Experimental	30 minutes	EC50	>10,000 mg/l
Melamine	108-78-1	Barley	Experimental	4 days	EC50	530 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Epoxy resin	25068-38-6	Estimated Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
Epoxy resin	25068-38-6	Estimated Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	
Ammonium Polyphosphate	68333-79-9	Data not available-insufficient	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Data not available-insufficient	N/A	N/A	N/A	N/A
Melamine	108-78-1	Experimental Biodegradation	14 days	BOD	0 %BOD/ThOD	OECD 301C - MITI test (I)
Melamine	108-78-1	Experimental Aquatic Inherent Biodegrad.	28 days	Dissolv. Organic Carbon Deplet	0 %removal of DOC	OECD 302B Zahn-Wellens/EVPA
Melamine	108-78-1	Experimental Soil Metabolism Aerobic		Half-life (t 1/2)	2-3 years (t 1/2)	

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Epoxy resin	25068-38-6	Estimated Bioconcentration		Log Kow	3.242	
Ammonium	68333-79-9	Data not available	N/A	N/A	N/A	N/A

Polyphosphate		or insufficient for classification				
Titanium dioxide	13463-67-7	Experimental BCF - Fish	42 days	Bioaccumulation factor	9.6	
Melamine	108-78-1	Experimental BCF - Fish	42 days	Bioaccumulation factor	<3.8	OECD305-Bioconcentration
Melamine	108-78-1	Experimental Bioconcentration		Log Kow	-1.14	EC A.8 Partition Coefficient

12.4. Mobility in soil
Please contact manufacturer for more details

12.5 Other adverse effects
No information available.

SECTION 13: Disposal considerations

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

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. 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.

SECTION 14: Transport Information

International Regulations

UN No.: None assigned
UN Proper shipping name: None assigned

Transportation Class (IMO): None assigned
Transportation Class (IATA): None assigned
Other Dangerous Goods Descriptions (IMO): Not restricted, as per IMDG code 2.10.2.7, marine pollutant exception.
Other Dangerous Goods Descriptions (IATA): Not restricted, as per Special Provision A197, environmentally hazardous substance exception.
Packing Group: None assigned
Marine pollutant: None assigned

SECTION 15: Regulatory information

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

Global inventory status
Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification

requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

This product may contain component(s) that are regulated by the following:
Workplace Safety and Health Act & Workplace Safety and Health (General Provisions) Regulations: this product is subject to SDS, labelling, PEL and other requirements in the Act/Regulations.

SECTION 16: Other information

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

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