Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Malaysia Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

SECTION 1: Identification

1.1. Product identifier

3M™ Scotch-Weld™ Structural Adhesive Film AF 163-2

Product Identification Numbers

62-0080-5305-0	62-0080-5306-8	62-0187-0120-1	62-0187-0155-7	62-0187-0455-1
62-0187-0835-4	62-0187-1005-3	62-0187-1105-1	62-0187-1500-3	62-0187-1600-1
62-0187-1685-2	62-0187-1701-7	62-0187-1736-3	62-0187-1750-4	62-0187-2125-8
62-0187-2405-4	62-0187-2505-1	62-0187-2507-7	62-0187-2850-1	62-0187-2920-2
62-0187-3905-2	62-0187-4205-6	62-0187-4505-9	62-0187-4506-7	62-0187-4805-3
62-0187-5308-7	62-0187-5309-5	62-0187-5310-3	62-0187-5345-9	62-0187-5349-1
62-0187-6005-8	62-0189-5305-9	62-0189-5306-7	62-0197-0135-8	62-0197-0305-7
62-0197-2205-7	62-0197-2895-5	62-0197-3907-7	62-0197-5305-2	62-0197-5309-4
62-2623-4805-5	62-2623-4825-3	62-2623-6009-2	62-3042-5306-5	62-3042-6003-7
62-3042-6009-4	62-3064-0305-6	62-3064-0805-5	62-3064-3905-0	62-3064-4506-5
62-3064-4805-1	62-3064-5305-1	62-3064-5306-9	62-3064-5309-3	62-3077-6005-8
62-3087-3905-1	62-3087-4356-6	62-3087-4505-8	62-3087-5305-2	62-3087-5309-4
62-3087-6009-9	62-3137-5305-5	62-3137-5306-3	62-3146-0155-0	62-3146-0355-6
62-3146-1205-2	62-3146-5306-4	62-3146-5307-2	62-3146-5309-8	62-3147-5306-2
62-3147-5309-6	62-3162-0305-8	62-3162-0555-8	62-3162-5306-1	62-3162-5309-5
62-3189-2205-1	62-3189-4505-2	62-3189-5301-5	62-3189-5302-3	62-3189-5309-8
62-3189-6005-1	62-3189-6255-2	62-3190-0305-9	62-3190-1005-4	62-3190-1205-0
62-3190-1755-4	62-3190-2405-5	62-3190-2805-6	62-3190-3155-5	62-3190-3906-1
62-3190-4505-0	62-3190-5302-1	62-3190-5303-9	62-3190-5309-6	62-3192-0455-8
62-3192-3905-9	62-3192-5300-1	62-3192-5305-0	62-3192-5309-2	87-2500-0336-2
87-2500-0390-9	87-2500-0391-7	87-2500-0393-3	87-3300-0007-3	87-3300-0008-1
87-3300-0013-1	87-3300-0014-9	87-3300-0015-6	87-3300-0019-8	87-3300-0020-6
87-3300-0021-4	87-3300-0028-9	87-3300-0029-7	87-3300-0042-0	87-3300-0043-8
87-3300-0113-9	87-3300-0117-0	87-3300-0501-5	87-3300-0502-3	87-3300-0503-1
87-3300-0504-9	87-3300-0505-6	87-3300-0506-4	87-3300-0507-2	87-3300-0508-0
87-3300-0526-2	87-3300-0527-0	87-3300-0530-4	87-3300-0531-2	87-3300-0532-0
87-3300-0533-8	87-3300-0543-7	87-3300-0544-5	87-3300-0545-2	87-3300-0546-0
87-3300-0547-8	87-3300-0548-6	87-3300-0549-4	87-3300-0550-2	87-3300-0551-0
87-3300-0552-8	87-3300-0562-7	87-3300-0563-5	87-3300-0564-3	87-3300-0565-0
87-3300-0566-8	87-3300-0567-6	87-3300-0572-6	87-3300-0573-4	87-3300-0574-2
87-3300-0575-9	87-3300-0576-7	87-3300-0577-5	87-3300-0579-1	87-3300-0580-9
87-3300-0581-7	87-3300-0582-5	87-3300-0583-3	87-3300-0584-1	87-3300-0614-6
87-3300-0615-3	FS-9100-3880-1	FS-9100-3908-0	FS-9100-3910-6	FS-9100-3911-4

FS-9100-3912-2	FS-9100-3915-5	FS-9100-3917-1	FS-9100-3919-7	FS-9100-3920-5
FS-9100-3921-3	FS-9100-3923-9	FS-9100-3929-6	FS-9100-3930-4	FS-9100-3934-6
FS-9100-3937-9	FS-9100-3939-5	FS-9100-3942-9	FS-9100-3943-7	FS-9100-4121-9
FS-9100-4345-4	FS-9100-5025-1			

1.2. Recommended use and restrictions on use

Recommended use
Structural Film Adhesive., Structural Adhesive Film for Bonding Applications

1.3. Supplier's details

ADDRESS: 3M Malaysia Sdn. Bhd., Level 8, Block F, Oasis Square, No.2, Jalan PJU 1A/7A, Ara Damansara 47301 Petaling, Jaya, Selangor
Telephone: 03-7884 2888
E Mail: 3mmyehsr@mmm.com
Website: www.3M.com.my

1.4. Emergency telephone number
+60 03-7884 2888

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Chronic Aquatic Toxicity: Category 2.

2.2. Label elements
Signal word
Not applicable

Symbols
Environment |

Pictograms

Hazard Statements:

H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention:

P273	Avoid release to the environment.

Disposal:

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

2.3. Other hazards
All or part of the classification is based on toxicity test data., The eye damage/irritation classification is not applied due to the nature of this product (adhesive film)., This material has been tested for skin corrosion/irritation and the test results do not meet the criteria for classification., This material has been tested for skin sensitization and the test results do not meet the

criteria for classification.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
EPOXY RESIN REACTION PRODUCT	None	45 - 65
Epoxy Resin C	25068-38-6	5 - 20
Bisphenol A	1675-54-3	10 - 20
Dicyandiamide	461-58-5	< 5
1,1'-(4-METHYL-M-PHENYLENE)BIS(3,3-DIMETHYLUREA)	17526-94-2	< 1.5
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	< 1
Adipic Dihydrazide	1071-93-8	< 1
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	< 1
Dye	Trade Secret	< 0.2

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
No need for first aid is anticipated. If symptoms develop, remove the affected person to fresh air. Get medical attention.

Skin Contact:
If exposed, wash with soap and water. If signs/symptoms develop, get medical attention.

Eye Contact:
If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, get medical attention.

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

4.2. Most important symptoms and effects, both acute and delayed
No critical symptoms or effects. See Section 11.1, information on toxicological effects.

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

SECTION 5: Fire-fighting measures

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

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

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion

Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion
Hydrogen Cyanide	During Combustion
Ammonia	During Combustion
Oxides of Nitrogen	During Combustion

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Ventilate the area with fresh air. Observe precautions from other sections.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial/occupational use only. Not for consumer sale or use. Avoid release to the environment.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
No occupational exposure limit values exist for any of the components listed in Section 3 of this SDS.

8.2. Exposure controls

8.2.1. Engineering controls
Provide ventilated enclosure for curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device.

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

Skin/hand protection
No protective gloves required.

Respiratory protection
None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Specific Physical Form:	Film
Color	Red
Odor	Odorless
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*No Data Available*
Boiling point/Initial boiling point/Boiling range	*Not Applicable*
Flash Point	No flash point
Evaporation rate	*Not Applicable*
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Vapor Pressure	*Not Applicable*
Vapor Density and/or Relative Vapor Density	*Not Applicable*
Density	1.27 g/ml
Relative Density	1.27 [*Ref Std:*WATER=1]
Water solubility	Nil
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*Not Applicable*
Autoignition temperature	*Not Applicable*
Decomposition temperature	*No Data Available*
Viscosity/Kinematic Viscosity	*Not Applicable*
Volatile Organic Compounds	*No Data Available*
Percent volatile as Text	Negligible
VOC Less H2O & Exempt Solvents	*No Data Available*
Molecular weight	*No Data Available*

SECTION 10: Stability and reactivity

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

10.2. Chemical stability
Stable.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
Amines

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 labeling, 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:
No known health effects.

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

Eye Contact:
Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion:
Physical Blockage: Signs/symptoms may include cramping, abdominal pain, and constipation.

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Bisphenol A	Dermal	Rat	LD50 > 1,600 mg/kg
Bisphenol A	Ingestion	Rat	LD50 > 1,000 mg/kg
Epoxy Resin C	Dermal	Rat	LD50 > 1,600 mg/kg
Epoxy Resin C	Ingestion	Rat	LD50 > 1,000 mg/kg
Dicyandiamide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Dicyandiamide	Ingestion	Rat	LD50 > 30,000 mg/kg
1,1'-(4-METHYL-M-PHENYLENE)BIS(3,3-DIMETHYLUREA)	Dermal	Rat	LD50 > 2,000 mg/kg
1,1'-(4-METHYL-M-PHENYLENE)BIS(3,3-DIMETHYLUREA)	Ingestion	Rat	LD50 > 2,000 mg/kg
Adipic Dihydrazide	Ingestion	Mouse	LD50 > 5,000 mg/kg
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Dermal	Rabbit	LD50 4,000 mg/kg
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.3 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Rat	LD50 7,010 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	Multiple animal species	No significant irritation
Bisphenol A	Rabbit	Mild irritant
Epoxy Resin C	Rabbit	Mild irritant
Dicyandiamide	Human and animal	Minimal irritation
1,1'-(4-METHYL-M-PHENYLENE)BIS(3,3-DIMETHYLUREA)	Rabbit	No significant irritation
Adipic Dihydrazide	Rabbit	No significant irritation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Bisphenol A	Rabbit	Moderate irritant
Epoxy Resin C	Rabbit	Moderate irritant
Dicyandiamide	Professional judgement	Mild irritant
1,1'-(4-METHYL-M-PHENYLENE)BIS(3,3-DIMETHYLUREA)	Rabbit	No significant irritation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Rabbit	Corrosive

Sensitization:

Skin Sensitization

Name	Species	Value
Overall product	Guinea pig	Not classified
Bisphenol A	Human and animal	Sensitizing
Epoxy Resin C	Human and animal	Sensitizing
Dicyandiamide	Guinea pig	Not classified
Adipic Dihydrazide	Guinea pig	Sensitizing
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Guinea pig	Not classified

Respiratory Sensitization

Name	Species	Value
Bisphenol A	Human	Not classified
Epoxy Resin C	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Bisphenol A	In vivo	Not mutagenic
Bisphenol A	In Vitro	Some positive data exist, but the data are not sufficient for classification
Epoxy Resin C	In vivo	Not mutagenic
Epoxy Resin C	In Vitro	Some positive data exist, but the data are not sufficient for classification
Dicyandiamide	In Vitro	Not mutagenic
Adipic Dihydrazide	In vivo	Not mutagenic

3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	In vivo	Not mutagenic
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Bisphenol A	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Epoxy Resin C	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Dicyandiamide	Ingestion	Rat	Not carcinogenic
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Dermal	Mouse	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Bisphenol A	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Bisphenol A	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Bisphenol A	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Bisphenol A	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy Resin C	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy Resin C	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy Resin C	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Epoxy Resin C	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Dicyandiamide	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
Dicyandiamide	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	44 days
Dicyandiamide	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	Not classified for development	Rat	NOAEL 3,000 mg/kg/day	during organogenesis

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
Bisphenol A	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years

Bisphenol A	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Bisphenol A	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
Epoxy Resin C	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Epoxy Resin C	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Epoxy Resin C	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
Dicyandiamide	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 6,822 mg/kg/day	13 weeks
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	Ingestion	heart | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | nervous system | kidney and/or bladder | respiratory 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 labeling, 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 #	Organism	Type	Exposure	Test Endpoint	Test Result

Bisphenol A	1675-54-3	Activated sludge	Estimated	3 hours	IC50	>100 mg/l
Bisphenol A	1675-54-3	Rainbow Trout	Estimated	96 hours	LC50	2 mg/l
Bisphenol A	1675-54-3	Water flea	Estimated	48 hours	EC50	1.8 mg/l
Bisphenol A	1675-54-3	Green algae	Experimental	72 hours	EC50	>11 mg/l
Bisphenol A	1675-54-3	Green algae	Experimental	72 hours	NOEC	4.2 mg/l
Bisphenol A	1675-54-3	Water flea	Experimental	21 days	NOEC	0.3 mg/l
Epoxy Resin C	25068-38-6	Activated sludge	Estimated	3 hours	IC50	>100 mg/l
Epoxy Resin C	25068-38-6	Green algae	Estimated	72 hours	EC50	>11 mg/l
Epoxy Resin C	25068-38-6	Rainbow Trout	Estimated	96 hours	LC50	2 mg/l
Epoxy Resin C	25068-38-6	Water flea	Estimated	48 hours	EC50	1.8 mg/l
Epoxy Resin C	25068-38-6	Green algae	Estimated	72 hours	NOEC	4.2 mg/l
Epoxy Resin C	25068-38-6	Water flea	Estimated	21 days	NOEC	0.3 mg/l
Dicyandiamide	461-58-5	Bluegill	Experimental	96 hours	LC50	>1,000 mg/l
Dicyandiamide	461-58-5	Green algae	Experimental	72 hours	EC50	>1,000 mg/l
Dicyandiamide	461-58-5	Water flea	Experimental	48 hours	EC50	3,177 mg/l
Dicyandiamide	461-58-5	Green algae	Experimental	72 hours	NOEC	310 mg/l
Dicyandiamide	461-58-5	Water flea	Experimental	21 days	NOEC	25 mg/l
Dicyandiamide	461-58-5	Redworm	Experimental	14 days	LC50	>3,200 mg/kg (Dry Weight)
1,1'-(4-METHYL-M-PHENYLENE)BIS(3,3-DIMETHYLUREA)	17526-94-2	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
1,1'-(4-METHYL-M-PHENYLENE)BIS(3,3-DIMETHYLUREA)	17526-94-2	Common Carp	Experimental	96 hours	LC50	>100 mg/l
1,1'-(4-METHYL-M-PHENYLENE)BIS(3,3-DIMETHYLUREA)	17526-94-2	Green algae	Experimental	72 hours	ErC50	>100 mg/l
1,1'-(4-METHYL-M-PHENYLENE)BIS(3,3-DIMETHYLUREA)	17526-94-2	Water flea	Experimental	48 hours	EC50	>100 mg/l
1,1'-(4-METHYL-M-PHENYLENE)BIS(3,3-DIMETHYLUREA)	17526-94-2	Green algae	Experimental	72 hours	NOEC	100 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Common Carp	Experimental	96 hours	LC50	55 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Green algae	Experimental	96 hours	ErC50	350 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Invertebrate	Experimental	48 hours	LC50	324 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Green algae	Experimental	96 hours	NOEC	130 mg/l

3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Water flea	Experimental	21 days	NOEC	100 mg/l
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Activated sludge	Experimental	3 hours	EC50	>100 mg/l
Adipic Dihydrazide	1071-93-8	Activated sludge	Experimental	3 hours	EC50	>1,000 mg/l
Adipic Dihydrazide	1071-93-8	Common Carp	Experimental	96 hours	LC50	>100 mg/l
Adipic Dihydrazide	1071-93-8	Green algae	Experimental	72 hours	ErC50	8.7 mg/l
Adipic Dihydrazide	1071-93-8	Water flea	Experimental	48 hours	EC50	>=106 mg/l
Adipic Dihydrazide	1071-93-8	Green algae	Experimental	72 hours	NOEC	0.22 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Diatom	Analogous Compound	72 hours	EC50	0.43 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Fathead Minnow	Analogous Compound	96 hours	LC50	0.54 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Green algae	Analogous Compound	72 hours	EC50	>1.9 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Water flea	Analogous Compound	48 hours	EC50	0.96 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Fathead Minnow	Analogous Compound	35 days	NOEC	0.16 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Green algae	Analogous Compound	72 hours	NOEC	0.5 mg/l
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Water flea	Analogous Compound	21 days	NOEC	0.3 mg/l
Dye	Trade Secret	N/A	Data not available or insufficient for classification	N/A	N/A	N/A

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Bisphenol A	1675-54-3	Experimental Biodegradation	28 days	Biological Oxygen Demand	5 %BOD/COD	OECD 301F - Manometric Respiro
Bisphenol A	1675-54-3	Experimental Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	
Epoxy Resin C	25068-38-6	Estimated Biodegradation	28 days	Biological Oxygen Demand	5 %BOD/COD	OECD 301F - Manometric Respiro
Epoxy Resin C	25068-38-6	Estimated Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	
Dicyandiamide	461-58-5	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	0 %removal of DOC	OECD 301E - Modif. OECD Screen
Dicyandiamide	461-58-5	Experimental Aquatic Inherent Biodegrad.	14 days	Dissolv. Organic Carbon Deplet	0 %removal of DOC	OECD 302B Zahn-Wellens/EVPA

Dicyandiamide	461-58-5	Experimental Biodegradation	61 days	Carbon dioxide evolution	1.1 %CO2 evolution/THCO2 evolution	OECD 309 Aero Sim Biod Water
1,1'-(4-METHYL-M-PHENYLENE)BIS(3,3-DIMETHYLUREA)	17526-94-2	Experimental Aquatic Inherent Biodegrad.	28 days	Dissolv. Organic Carbon Deplet	10 %removal of DOC (does not pass 10-day window)	similar to OECD 302B
1,1'-(4-METHYL-M-PHENYLENE)BIS(3,3-DIMETHYLUREA)	17526-94-2	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	33 days (t 1/2)	OECD 111 Hydrolysis func of pH
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	37 %removal of DOC	EC C.4.A. DOC Die-Away Test
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	6.5 hours (t 1/2)	OECD 111 Hydrolysis func of pH
Adipic Dihydrazide	1071-93-8	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	62.1 %removal of DOC	OECD 301E - Modif. OECD Screen
Adipic Dihydrazide	1071-93-8	Experimental Hydrolysis		Hydrolytic half-life (pH 7)	>1 years (t 1/2)	OECD 111 Hydrolysis func of pH
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDENEDI-	6386-73-8	Modeled Biodegradation	28 days	Biological Oxygen Demand	16 %BOD/ThOD	Catalogic™
Dye	Trade Secret	Data not availbl-insufficient	N/A	N/A	N/A	N/A

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
Bisphenol A	1675-54-3	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	3.242	
Epoxy Resin C	25068-38-6	Estimated Bioconcentration		Log of Octanol/H2O part. coeff	3.242	
Dicyandiamide	461-58-5	Experimental BCF - Fish	42 days	Bioaccumulation Factor	<=3.1	OECD305-Bioconcentration
Dicyandiamide	461-58-5	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-0.52	OECD 107 log Kow shke flsk mtd
1,1'-(4-METHYL-M-PHENYLENE)BIS(3,3-DIMETHYLUREA)	17526-94-2	Modeled Bioconcentration		Log of Octanol/H2O part. coeff	0.77	Episuite™
3-(TRIMETHOXYSILYL)PROPYL GLYCIDYL ETHER	2530-83-8	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.5	Episuite™
Adipic Dihydrazide	1071-93-8	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-2.7	OECD 107 log Kow shke flsk mtd
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDEN	6386-73-8	Modeled Bioconcentration		Bioaccumulation Factor	410	Catalogic™

EDI-						
PHENOL, 2,2',6-TRIBROMO-4,4'-ISOPROPYLIDEN EDI-	6386-73-8	Modeled Bioconcentration		Log of Octanol/H2O part. coeff	6.3	Episuite™
Dye	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil
Please contact manufacturer for more details

12.5 Other adverse effects
No information available

SECTION 13: Disposal considerations

13.1. Disposal methods

According to the Environmental Quality (Scheduled Wastes) Regulations 2005, scheduled waste has to be sent to a prescribed premise for recycling, treatment or disposal. Please approach Kualiti Alam for proper schedule waste classification and disposal.

SECTION 14: Transport Information

Marine Transport (IMDG)
Forbidden:3M division policy

Air Transport (IATA)

UN Number:UN1845, UN3077
Proper Shipping Name: Carbon Dioxide, Solid, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Technical Name: None assigned.
Hazard Class/Division:9
Subsidiary Risk: None assigned.
Packing Group:III
Limited Quantity: None assigned.
Marine Pollutant: None assigned.
Marine Pollutant Technical Name: None assigned.
Other Dangerous Goods Descriptions:
None assigned.

Transportation classifications are provided as a customer service. As for shipping, YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M's transportation classifications are based on product formulation, packaging, 3M policies and 3M's understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling or marking requirements. The above information is only for reference. If you are shipping by air or ocean, YOU are advised to check & meet applicable regulatory requirements.

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 Japan Chemical Substance Control Law. 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.

SECTION 16: Other information

DISCLAIMER: The information in this Safety Data Sheet (SDS) 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 SDS or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own evaluation to satisfy themselves as to the suitability of the product for their own intended applications. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into Malaysia, you are responsible for all applicable regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration/notification.

3M Malaysia SDSs are available at www.3M.com.my