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™ Structural Bonding Tape 9214 and 9263

Product Identification Numbers

44-0020-6093-5	44-0020-6095-0	44-0020-6099-2	44-0023-1501-6	44-0023-1502-4
44-0023-1503-2	44-0023-1504-0	44-0023-4913-0	44-0046-0289-0	44-0046-0290-8
44-0046-0312-0	44-0046-0313-8	44-0046-0314-6	70-0001-0657-8	70-0001-0658-6
70-0702-9005-4	70-0702-9021-1	70-0705-7366-5	70-0706-9769-6	70-0706-9848-8
70-0706-9890-0	70-0706-9947-8	70-0708-4823-2	70-0708-4826-5	70-0708-4835-6
70-0708-4838-0	70-0710-6021-7	70-0710-6035-7	70-0711-0375-1	70-0711-0376-9
70-0711-0377-7	70-0711-0378-5	70-0711-0488-2	70-0711-0519-4	70-0711-0530-1
70-0711-0591-3	70-0711-0592-1	70-0711-0609-3	99-9939-4524-7	99-9939-4529-6
99-9939-4537-9	DT-2113-5245-5	DT-2113-5246-3	DT-2113-5258-8	DT-2113-5259-6
DT-2114-2402-3	DT-2114-2482-5	DT-2114-2626-7	DT-2114-2716-6	DT-2114-2722-4
DT-2114-2889-1	DT-2114-2963-4	DT-2114-3032-7	DT-2114-3076-4	DT-2114-3077-2
DT-2114-3092-1	DT-2114-3094-7	DT-2114-3109-3	DT-2114-3115-0	DT-2114-3232-3
DT-2114-3233-1	DT-2114-3234-9	DT-2114-3264-6	DT-2114-3271-1	DT-2114-3287-7
DT-2114-3331-3	DT-2114-3348-7	DT-2114-3356-0	DT-2114-3415-4	DT-2114-3486-5
DT-2114-3495-6	DT-2114-3583-9	DT-2114-3600-1	DT-2114-3602-7	DT-2114-3603-5
DT-2114-3629-0	DT-2114-3704-1	DT-2114-3711-6	DT-2114-3789-2	DT-2114-3917-9
DT-2114-3918-7	DT-2114-3952-6	DT-2114-4053-2	DT-2114-4076-3	DT-2114-4157-1
DT-2114-4287-6	DT-2114-4315-5	DT-2114-4316-3	DT-2114-4317-1	DT-2114-4343-7
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DT-2114-4609-1	DT-2114-4646-3	DT-2114-4647-1	DT-2114-4651-3	DT-2114-4693-5
DT-2114-4744-6	DT-2114-4775-0	DT-2114-4806-3	DT-2114-4820-4	DT-2114-4822-0
DT-2114-4823-8	DT-2114-4824-6	DT-2114-4825-3	DT-2114-4826-1	DT-2114-4827-9
DT-2114-4889-9	DT-2114-4890-7	DT-2114-4891-5	DT-2114-4892-3	DT-2114-4893-1
DT-2114-4902-0	DT-2114-4959-0	DT-2114-5007-7	DT-2114-5040-8	DT-2114-5065-5
DT-2114-5106-7	DT-2114-5107-5	DT-2114-5108-3	DT-2114-5110-9	DT-2114-5111-7
DT-2114-5223-0	DT-2114-5268-5	DT-2114-5308-9	DT-2114-5309-7	DT-2114-5310-5
DT-2114-5311-3	DT-2114-5531-6	DT-2116-0064-8	DT-2116-0233-9	DT-2116-0235-4
DT-2116-0236-2	DT-2116-0310-5	DT-2116-0451-7	DT-2116-0468-1	DT-2116-0568-8

DT-2116-0659-5	DT-2116-0669-4	DT-2116-0670-2	DT-2116-0683-5	DT-2116-0685-0
DT-2116-0734-6	DT-2116-0747-8	DT-2116-0824-5	DT-2116-0825-2	DT-2116-0850-0
DT-2116-0871-6	DT-2116-0975-5	DT-2116-0999-5	DT-2116-1065-4	DT-2116-1147-0
DT-2116-1158-7	DT-9214-0008-1	DT-9214-0025-5	DT-9214-0027-1	DT-9214-0034-7
DT-9214-0036-2	DT-9214-0038-8	DT-9214-0039-6	DT-9214-0050-3	DT-9214-0090-9
DT-9214-0100-6	DT-9214-9019-9	DT-9214-9030-6	DU-9214-0055-0	KW-0000-0157-3
UU-0015-4868-2	UU-0015-4869-0	UU-0015-7014-0	UU-0016-4376-4	UU-0030-5818-5
UU-0030-5819-3	UU-0030-5820-1	UU-0030-5831-8	UU-0030-9030-3	UU-0030-9997-3
UU-0036-7893-3	UU-0037-0403-6	UU-0042-2509-8	UU-0042-3282-1	UU-0042-3333-2
UU-0042-4836-3	UU-0080-7269-4	UU-0081-2698-7	UU-0081-7874-9	UU-0087-1893-2
UU-0090-6762-8				

1.2. Recommended use and restrictions on use

Recommended use
Automotive - Industrial/Professional use, Structural Tape

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

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 advice/attention.

Disposal:

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

2.3. Other hazards

A similar mixture has been tested for skin corrosion/irritation 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
ACRYLATE COPOLYMER	Trade Secret	30 - 60
EPOXY RESIN	25068-38-6	15 - 40
SOLID EPOXY RESIN	25036-25-3	5 - 20
DICYANDIAMIDE	461-58-5	1 - 5
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	112945-52-5	1 - 5
SUBSTITUTED TRIAZINE	Trade Secret	1 - 5
VINYLCAPROLACTAM	2235-00-9	<= 0.4

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
Hydrogen Cyanide	During Combustion
Ammonia	During Combustion
Oxides of Nitrogen	During Combustion
Organic Acids	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. 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
Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. 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 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 oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities
Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidizing agents. Store away from amines.

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	C.A.S. No.	Agency	Limit type	Additional Comments
VINYLCAPROLACTAM	2235-00-9	Manufacturer determined	TWA(8 hours):0.1 ppm(0.57 mg/m3)	

ACGIH : American Conference of Governmental Industrial Hygienists
CMRG : Chemical Manufacturer's Recommended Guidelines
Malaysia OELs : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
No engineering controls required.

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

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

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:	Roll of Tape
Color	Gray
Odor	Acrylate
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	*No Data Available*
Relative Density	*No Data Available*
Water solubility	*Not Applicable*
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity/Kinematic Viscosity	*Not Applicable*
Volatile Organic Compounds	*Not Applicable*
Percent volatile	*Not Applicable*
VOC Less H2O & Exempt Solvents	*Not Applicable*
Molecular weight	*No Data Available*

Nanoparticles
This material contains nanoparticles.

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 polymerization will not occur.

10.4. Conditions to avoid
Heat

10.5. Incompatible materials
Strong acids
Strong bases
Strong oxidizing agents
Amines

Additional Information: Mercaptans

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 health effects are expected.

Skin Contact:
Contact with the skin during product use is not expected to result in significant irritation. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Photosensitization: Signs/symptoms may include a sunburn-like reaction such as blistering, redness, swelling, and itching from minor exposure to sunlight.

Eye Contact:
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

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
EPOXY RESIN	Dermal	Rat	LD50 > 1,600 mg/kg
EPOXY RESIN	Ingestion	Rat	LD50 > 1,000 mg/kg
SOLID EPOXY RESIN	Dermal	Rat	LD50 > 1,600 mg/kg
SOLID EPOXY RESIN	Ingestion	Rat	LD50 > 1,000 mg/kg
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Dermal	Rabbit	LD50 > 5,000 mg/kg
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Ingestion	Rat	LD50 > 5,110 mg/kg
DICYANDIAMIDE	Dermal	Rabbit	LD50 > 10,000 mg/kg
DICYANDIAMIDE	Ingestion	Rat	LD50 > 30,000 mg/kg
VINYLCAPROLACTAM	Dermal	Rabbit	LD50 1,700 mg/kg
VINYLCAPROLACTAM	Ingestion	Rat	LD50 1,049 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
EPOXY RESIN	Rabbit	Mild irritant
SOLID EPOXY RESIN	Rabbit	Mild irritant
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Rabbit	No significant irritation
DICYANDIAMIDE	Human and animal	Minimal irritation
VINYLCAPROLACTAM	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
EPOXY RESIN	Rabbit	Moderate irritant

SOLID EPOXY RESIN	Rabbit	Moderate irritant
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Rabbit	No significant irritation
DICYANDIAMIDE	Professional judgement	Mild irritant
VINYLCAPROLACTAM	Rabbit	Severe irritant

Sensitization:

Skin Sensitization

Name	Species	Value
EPOXY RESIN	Human and animal	Sensitizing
SOLID EPOXY RESIN	Human and animal	Sensitizing
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Human and animal	Not classified
DICYANDIAMIDE	Guinea pig	Not classified
VINYLCAPROLACTAM	Mouse	Sensitizing

Respiratory Sensitization

Name	Species	Value
EPOXY RESIN	Human	Not classified
SOLID 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
SOLID EPOXY RESIN	In vivo	Not mutagenic
SOLID EPOXY RESIN	In Vitro	Some positive data exist, but the data are not sufficient for classification
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	In Vitro	Not mutagenic
DICYANDIAMIDE	In Vitro	Not mutagenic
VINYLCAPROLACTAM	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
EPOXY RESIN	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
SOLID EPOXY RESIN	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
DICYANDIAMIDE	Ingestion	Rat	Not 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	2 generation

				mg/kg/day	
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
SOLID EPOXY RESIN	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
SOLID EPOXY RESIN	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
SOLID EPOXY RESIN	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
SOLID EPOXY RESIN	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Ingestion	Not classified for female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Ingestion	Not classified for male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Ingestion	Not classified for development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
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

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
VINYLCAPROLACTAM	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	

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
SOLID EPOXY RESIN	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
SOLID EPOXY RESIN	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
SOLID EPOXY RESIN	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes |	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

		kidney and/or bladder				
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
DICYANDIAMIDE	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 6,822 mg/kg/day	13 weeks
VINYLCAPROLACTAM	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.001 mg/l	28 days
VINYLCAPROLACTAM	Inhalation	blood | liver | kidney and/or bladder | eyes	Not classified	Rat	NOAEL 0.18 mg/l	90 days
VINYLCAPROLACTAM	Ingestion	liver	Not classified	Rat	NOAEL 260 mg/kg/day	3 months

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
ACRYLATE COPOLYMER	Trade Secret		Data not available or insufficient for classification			N/A
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

SOLID EPOXY RESIN	25036-25-3	Green algae	Estimated	72 hours	EC50	>11 mg/l
SOLID EPOXY RESIN	25036-25-3	Rainbow Trout	Estimated	96 hours	LC50	2 mg/l
SOLID EPOXY RESIN	25036-25-3	Water flea	Estimated	48 hours	EC50	1.8 mg/l
SOLID EPOXY RESIN	25036-25-3	Green algae	Estimated	72 hours	NOEC	4.2 mg/l
SOLID EPOXY RESIN	25036-25-3	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)
SUBSTITUTED TRIAZINE	Trade Secret	Green Algae	Experimental	72 hours	EC50	>100 mg/l
SUBSTITUTED TRIAZINE	Trade Secret	Water flea	Experimental	48 hours	EC50	>100 mg/l
SUBSTITUTED TRIAZINE	Trade Secret	Green Algae	Experimental	72 hours	EC10	>100 mg/l
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	112945-52-5	Green Algae	Experimental	72 hours	EC50	>100 mg/l
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	112945-52-5	Water flea	Experimental	24 hours	EC50	>100 mg/l
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	112945-52-5	Zebra Fish	Experimental	96 hours	LC50	>100 mg/l
SYNTHETIC AMORPHOUS SILICA, FUMED,	112945-52-5	Green Algae	Experimental	72 hours	NOEC	60 mg/l

CRYSTALLINE FREE						
VINYLCAPROLACTAM	2235-00-9	Bacteria	Experimental	17 hours	EC50	622 mg/l
VINYLCAPROLACTAM	2235-00-9	Green algae	Experimental	72 hours	EC50	>100 mg/l
VINYLCAPROLACTAM	2235-00-9	Water flea	Experimental	48 hours	EC50	>100 mg/l
VINYLCAPROLACTAM	2235-00-9	Zebra Fish	Experimental	96 hours	LC50	307 mg/l
VINYLCAPROLACTAM	2235-00-9	Green algae	Experimental	72 hours	NOEC	25 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
ACRYLATE COPOLYMER	Trade Secret	Data not availbl-insufficient			N/A	
EPOXY RESIN	25068-38-6	Estimated Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	Non-standard method
EPOXY RESIN	25068-38-6	Estimated Biodegradation	28 days	Biological Oxygen Demand	5 %BOD/COD	OECD 301F - Manometric Respiro
SOLID EPOXY RESIN	25036-25-3	Estimated Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	Non-standard method
SOLID EPOXY RESIN	25036-25-3	Estimated Biodegradation	28 days	Biological Oxygen Demand	5 % BOD/ThBOD	OECD 301F - Manometric Respiro
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
SUBSTITUTED TRIAZINE	Trade Secret	Experimental Biodegradation	28 days	Carbon dioxide evolution	6.5 %CO2 evolution/THCO2 evolution	OECD 301B - Mod. Sturm or CO2
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	112945-52-5	Data not availbl-insufficient			N/A	
VINYLCAPROLACTAM	2235-00-9	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	30-40 % weight	OECD 301A - DOC Die Away Test

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
ACRYLATE COPOLYMER	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
EPOXY RESIN	25068-38-6	Estimated Bioconcentration		Log of Octanol/H2O part. coeff	3.242	Non-standard method
SOLID EPOXY RESIN	25036-25-3	Estimated Bioconcentration		Log of Octanol/H2O part. coeff	3.242	Non-standard method
DICYANDIAMIDE	461-58-5	Experimental BCF-Carp	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
SUBSTITUTED TRIAZINE	Trade Secret	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	-0.06	OECD 117 log Kow HPLC method
SYNTHETIC AMORPHOUS SILICA, FUMED, CRYSTALLINE FREE	112945-52-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
VINYLCAPROLACTAM	2235-00-9	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	1.2	Non-standard method

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)

UN Number: None assigned.
Proper Shipping Name: None assigned.
Technical Name: None assigned.
Hazard Class/Division: None assigned.
Subsidiary Risk: None assigned.
Packing Group: None assigned.
Limited Quantity: None assigned.

Marine Pollutant: None assigned.
Marine Pollutant Technical Name: None assigned.
Other Dangerous Goods Descriptions:
Not restricted, as per IMDG code 2.10.2.7, marine pollutant exception.

Air Transport (IATA)

UN Number: None assigned.
Proper Shipping Name: None assigned.
Technical Name: None assigned.
Hazard Class/Division: None assigned.
Subsidiary Risk: None assigned.
Packing Group: None assigned.
Limited Quantity: None assigned.
Marine Pollutant: None assigned.
Marine Pollutant Technical Name: None assigned.
Other Dangerous Goods Descriptions:
Not restricted, as per Special Provision A197, environmentally hazardous substance exception.

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.

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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