Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the GHS guidelines & India Hazardous substances (Classification, Labeling & Packaging) Draft Rules 2011.

SECTION 1: Identification

1.1. Product identifier
3M™ Scotch-Weld™ Epoxy Adhesive 2214 Non-Metallic Filled, Cream

Product Identification Numbers
62-3401-0830-7 62-3401-2934-5

1.2. Recommended use and restrictions on use

Recommended use
Industrial use.

1.3. Supplier's details
Address: 3M India Limited, plot-48-51, Electronic city, Hosur road, Bangalore-560100
Telephone: 080-45543000, contact Product EHS team
E Mail: productehs.in@mmm.com
Website: http://solutions.3mindia.co.in

1.4. Emergency telephone number
080-45543000 (Contact hours: 8:00 AM to 5:00 PM)

SECTION 2: Hazard identification

Under MSIHC Rules, information is noted below on flammability, acute toxicity and explosivity relevant to this product. In line with international standards, information on other hazard classes and associated precautionary statements relevant to this product are included as well.

2.1. Classification of the substance or mixture
Self-Reactive: Type F.
Skin Corrosion/Irritation: Category 3.
Serious Eye Damage/Irritation: Category 2B.
Skin Sensitizer: Category 1.
Acute Aquatic Toxicity: Category 1.
Chronic Aquatic Toxicity: Category 1.

2.2. Label elements
Signal Word

Warning

Symbols
Flame | Exclamation mark | Environment |

Pictograms

HAZARD STATEMENTS:

H242	Heating may cause a fire.
H316	Causes mild skin irritation.
H320	Causes eye irritation.
H317	May cause an allergic skin reaction.
H410	Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P234	Keep only in original packaging.
P240	Ground and bond container and receiving equipment.
P273	Avoid release to the environment.
P280B	Wear protective gloves and eye/face protection.

Response:

P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P370 + P378	In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

Storage:

P403 + P235	Store in a well-ventilated place. Keep cool.
P411	Store at temperatures not exceeding 5C/40F.

Disposal:

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

2.3. Other hazards
None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Epoxy Resin 1	25068-38-6	40 - 70
Synthetic Elastomer	Trade Secret	7 - 13
Cyanoguanidine	461-58-5	5 - 10
Epoxy Resin 2	41638-13-5	5 - 10

Silane, trimethoxyoctyl-, hydrolysis products with silica	67762-90-7	1 - 5
Epoxy Resin 3	14228-73-0	1 - 5
para-Chlorophenyl-Dimethylurea	150-68-5	1 - 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
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 flammable liquids such as dry chemical or carbon dioxide 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.
Chlorine	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
Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools.

Ventilate the area with fresh air. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. 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 using non-sparking tools. 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
Avoid skin contact with hot material. For industrial/occupational use only. Not for consumer sale or use. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. 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.)

7.2. Conditions for safe storage including any incompatibilities
Store in a well-ventilated place. Keep cool. Store away from heat. Store at temperatures not exceeding 5C/40F. Keep only in original container. Store away from acids. Store away from strong bases. Store away from oxidising agents. Store away from other materials. Keep/store away from clothing and other combustible materials.

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
para-Chlorophenyl-Dimethylurea		Manufacturer determined	TWA(Inhalable aerosol)(8 hours):1 mg/m3	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
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:
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

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.

Thermal hazards
Wear heat insulating gloves, indirect vented goggles, and a full face shield when handling hot material to prevent thermal burns.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Paste
Color	Cream
Odor	Epoxy
Odour threshold	*No data available.*
pH	*No data available.*
Melting point/Freezing point: NA	*No data available.*
Boiling point/Initial boiling point/Boiling range	>=260 ºC
Flash point	>=248.9 ºC [*Test Method:*Closed Cup]
Evaporation rate	*Not applicable.*
Flammability (solid, gas)	Self-Reactive: Type F.
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	*Not applicable.*
Vapor Density and/or Relative Vapor Density	*Not applicable.*
Density	1.2 g/ml
Relative density	1.2 [*Ref Std:*WATER=1]
Water solubility	Nil
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Autoignition temperature	*No data available.*
Decomposition temperature	*No data available.*
Viscosity/Kinematic Viscosity	878,000 mPa-s [@ 23 ºC]
Volatile organic compounds (VOC)	*No data available.*
Percent volatile	*No data available.*
VOC less H2O & exempt solvents	0 g/l [*Test Method:*calculated SCAQMD rule 443.1]
VOC less H2O & exempt solvents	0 % [*Test Method:*calculated per CARB title 2]

Molecular weight	*No data available.*

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
Avoid curing large quantities of material to prevent a premature reaction (exotherm) with production of intense heat and smoke.
Heat.

10.5 Incompatible materials
Strong oxidising agents.
Strong acids.
Strong bases.

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
Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.

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 >5,000 mg/kg
Epoxy Resin 1	Dermal	Rat	LD50 > 1,600 mg/kg
Epoxy Resin 1	Ingestion	Rat	LD50 > 1,000 mg/kg
Epoxy Resin 2	Dermal	Rabbit	LD50 > 2,000 mg/kg
Epoxy Resin 2	Ingestion	Rat	LD50 > 2,000 mg/kg
Cyanoguanidine	Dermal	Rabbit	LD50 > 10,000 mg/kg
Cyanoguanidine	Ingestion	Rat	LD50 > 30,000 mg/kg
Synthetic Elastomer	Dermal	Rabbit	LD50 > 15,000 mg/kg
Synthetic Elastomer	Ingestion	Rat	LD50 > 30,000 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
para-Chlorophenyl-Dimethylurea	Dermal	Rabbit	LD50 > 2,500 mg/kg
para-Chlorophenyl-Dimethylurea	Ingestion	Rat	LD50 1,480 mg/kg
Epoxy Resin 3	Dermal	Rabbit	LD50 > 2,000 mg/kg
Epoxy Resin 3	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.19 mg/l
Epoxy Resin 3	Ingestion	Rat	LD50 1,098 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Epoxy Resin 1	Rabbit	Mild irritant
Epoxy Resin 2	Rabbit	No significant irritation
Cyanoguanidine	Human and animal	Minimal irritation
Synthetic Elastomer	Professional judgement	No significant irritation
Silane, trimethoxyoctyl-, hydrolysis products with silica	Rabbit	No significant irritation
para-Chlorophenyl-Dimethylurea	similar compounds	Mild irritant
Epoxy Resin 3	In vitro data	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
Epoxy Resin 1	Rabbit	Moderate irritant
Epoxy Resin 2	Rabbit	Moderate irritant
Cyanoguanidine	Professional judgement	Mild irritant
Synthetic Elastomer	Professional	No significant irritation

	judgement	
Silane, trimethoxyoctyl-, hydrolysis products with silica	Rabbit	No significant irritation
para-Chlorophenyl-Dimethylurea	similar compounds	Moderate irritant
Epoxy Resin 3	In vitro data	No significant irritation

Sensitization:

Skin Sensitisation

Name	Species	Value
Epoxy Resin 1	Human and animal	Sensitising
Epoxy Resin 2	Guinea pig	Sensitising
Cyanoguanidine	Guinea pig	Not classified
Silane, trimethoxyoctyl-, hydrolysis products with silica	Human and animal	Not classified
Epoxy Resin 3	Mouse	Sensitising

Respiratory Sensitisation

Name	Species	Value
Epoxy Resin 1	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
Epoxy Resin 1	In vivo	Not mutagenic
Epoxy Resin 1	In Vitro	Some positive data exist, but the data are not sufficient for classification
Epoxy Resin 2	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cyanoguanidine	In Vitro	Not mutagenic
Silane, trimethoxyoctyl-, hydrolysis products with silica	In Vitro	Not mutagenic
para-Chlorophenyl-Dimethylurea	In Vitro	Some positive data exist, but the data are not sufficient for classification
para-Chlorophenyl-Dimethylurea	In vivo	Some positive data exist, but the data are not sufficient for classification
Epoxy Resin 3	In vivo	Not mutagenic
Epoxy Resin 3	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Epoxy Resin 1	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Cyanoguanidine	Ingestion	Rat	Not carcinogenic
Silane, trimethoxyoctyl-, hydrolysis products with silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
para-Chlorophenyl-Dimethylurea	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure

					Duration
Epoxy Resin 1	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy Resin 1	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy Resin 1	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
Epoxy Resin 1	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Cyanoguanidine	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating & during gestation
Cyanoguanidine	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	44 days
Cyanoguanidine	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	premating & 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
para-Chlorophenyl-Dimethylurea	Ingestion	Not classified for development	Mouse	LOAEL 215 mg/kg/day	during gestation
Epoxy Resin 3	Ingestion	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	premating into lactation
Epoxy Resin 3	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	33 days
Epoxy Resin 3	Ingestion	Not classified for development	Rat	NOAEL 300 mg/kg/day	premating into lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Epoxy Resin 2	Inhalation	respiratory irritation	May cause respiratory irritation	Rat	NOAEL not available	
para-Chlorophenyl-Dimethylurea	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar compounds	NOAEL Not available	
para-Chlorophenyl-Dimethylurea	Ingestion	methemoglobinemia	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	not applicable
Epoxy Resin 3	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
Epoxy Resin 1	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
Epoxy Resin 1	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Epoxy Resin 1	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes | kidney and/or	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days

		bladder				
Cyanoguanidine	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 6,822 mg/kg/day	13 weeks
Silane, trimethoxyoctyl-, hydrolysis products with silica	Inhalation	respiratory system | silicosis	Not classified	Human	NOAEL Not available	occupational exposure
para-Chlorophenyl-Dimethylurea	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	LOAEL 800 mg/kg/day	103 weeks
para-Chlorophenyl-Dimethylurea	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 65 mg/kg/day	103 weeks
para-Chlorophenyl-Dimethylurea	Ingestion	immune system	Not classified	Rat	LOAEL 520 mg/kg/day	13 weeks
Epoxy Resin 3	Ingestion	endocrine system | gastrointestinal tract | liver | heart | hematopoietic system | immune system | nervous system | kidney and/or bladder	Not classified	Rat	NOAEL 300 mg/kg/day	33 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 1: Very toxic to aquatic life.

Chronic aquatic hazard:
GHS Chronic 1: Very 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 1		Rainbow trout	Estimated	96 hours	LC50	2 mg/l
Epoxy Resin 1		Water flea	Estimated	48 hours	LC50	1.8 mg/l
Epoxy Resin 1		Activated sludge	Experimental	3 hours	IC50	>100 mg/l
Epoxy Resin 1		Green algae	Experimental	72 hours	EC50	>11 mg/l
Epoxy Resin 1		Green algae	Experimental	72 hours	NOEC	4.2 mg/l
Epoxy Resin 1		Water flea	Experimental	21 days	NOEC	0.3 mg/l
Synthetic Elastomer	Trade Secret		Data not available or insufficient for classification			N/A

Cyanoguanidine		Bluegill	Experimental	96 hours	LC50	>1,000 mg/l
Cyanoguanidine		Green algae	Experimental	72 hours	EC50	>1,000 mg/l
Cyanoguanidine		Water flea	Experimental	48 hours	EC50	3,177 mg/l
Cyanoguanidine		Green algae	Experimental	72 hours	NOEC	310 mg/l
Cyanoguanidine		Water flea	Experimental	21 days	NOEC	25 mg/l
Cyanoguanidine		Redworm	Experimental	14 days	LC50	>3,200 mg/kg (Dry Weight)
Epoxy Resin 2		Golden Orfe	Experimental	96 hours	LC50	67 mg/l
Epoxy Resin 2		Water flea	Experimental	48 hours	EC50	90 mg/l
Silane, trimethoxyoctyl-, hydrolysis products with silica			Data not available or insufficient for classification			N/A
Epoxy Resin 3		Bacteria	Estimated	18 hours	EC50	10,264 mg/l
Epoxy Resin 3		Green algae	Estimated	72 hours	EC50	26.7 mg/l
Epoxy Resin 3		Rainbow trout	Estimated	96 hours	LC50	10.1 mg/l
Epoxy Resin 3		Water flea	Estimated	48 hours	EC50	16.3 mg/l
Epoxy Resin 3		Green algae	Estimated	72 hours	EC10	21.4 mg/l
Epoxy Resin 3		Water flea	Estimated	21 days	NOEC	11.7 mg/l
para-Chlorophenyl-Dimethylurea		Algae or other aquatic plants	Experimental	24 hours	EC50	0.079 mg/l
para-Chlorophenyl-Dimethylurea		Fish	Experimental	96 hours	LC50	3.3 mg/l
para-Chlorophenyl-Dimethylurea		Water flea	Experimental	26 hours	EC50	106 mg/l
para-Chlorophenyl-Dimethylurea		Green algae	Experimental	96 hours	NOEC	0.01 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Epoxy Resin 1		Experimental Hydrolysis		Hydrolytic half-life	117 hours (t 1/2)	Non-standard method
Epoxy Resin 1		Experimental Biodegradation	28 days	BOD	5 %BOD/COD	OECD 301F - Manometric respirometry
Synthetic Elastomer	Trade Secret	Data not available-insufficient	N/A	N/A	N/A	N/A
Cyanoguanidine		Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	0 %removal of DOC	OECD 301E - Modif. OECD Screen
Cyanoguanidine		Experimental Aquatic	14 days	Dissolv. Organic	0 %removal of DOC	OECD 302B Zahn-Wellens/EVPA

		Inherent Biodegrad.		Carbon Deplet		
Cyanoguanidine		Experimental Biodegradation	61 days	CO2 evolution	1.1 %CO2 evolution/THCO2 evolution	OECD 309 Aero Sim Biod Water
Epoxy Resin 2		Experimental Biodegradation	28 days	CO2 evolution	27 %CO2 evolution/THCO2 evolution	OECD 301B - Modified sturm or CO2
Silane, trimethoxyoctyl-, hydrolysis products with silica		Data not available-insufficient	N/A	N/A	N/A	N/A
Epoxy Resin 3		Estimated Biodegradation	28 days	Dissolv. Organic Carbon Deplet	16.6 %removal of DOC	OECD 301F - Manometric respirometry
para-Chlorophenyl-Dimethylurea		Estimated Biodegradation	28 days	BOD	2.1 %BOD/ThBOD	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Epoxy Resin 1		Experimental Bioconcentration		Log Kow	3.242	Non-standard method
Synthetic Elastomer	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Cyanoguanidine		Experimental BCF - Carp	42 days	Bioaccumulation factor	<=3.1	OECD305-Bioconcentration
Cyanoguanidine		Experimental Bioconcentration		Log Kow	-0.52	OECD 107 log Kow shke flsk mtd
Epoxy Resin 2		Estimated Bioconcentration		Bioaccumulation factor	2	Estimated: Bioconcentration factor
Silane, trimethoxyoctyl-, hydrolysis products with silica		Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Epoxy Resin 3		Estimated Bioconcentration		Bioaccumulation factor	3	Estimated: Bioconcentration factor
para-Chlorophenyl-Dimethylurea		Experimental Bioconcentration		Log Kow	1.94	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
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of completely cured (or polymerised) 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

Air Transport (IATA)Regulations
Forbidden:3M packaging does not meet regulatory agency requirements
UN No UN3240
Proper Shipping Name SELF-REACTIVE SOLID TYPE F,TEMPERATURE CONTROLLED
Hazard Classs/Division 4.1
Subsidiary Risk Not applicable
Packing Group: Not applicable

Marine Transport (IMDG)
UN No UN3240
Proper Shipping Name SELF-REACTIVE SOLID TYPE F,TEMPERATURE CONTROLLED
Hazard Classs/Division 4.1
Subsidiary Risk Not applicable
Packing Group: Not applicable
Environmental Hazards: Not applicable

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 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. 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.

Applicable Environmental, Health and Safety Regulations
The Manufacture, Storage and Import of Hazardous Chemical Rules, 1989
Hazardous Waste(Management , Handling & Transboundary) Rules, 2008

The following ingredients are listed as hazardous on Part II of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules
None.

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 **Flammability:** 1 **Instability:** 1 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision information:

No revision information

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