# Safety Data Sheet



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|---|---|---|---|
| **Document group:** | 18-5798-6 | **Version number:** | 1.02 |
| **Issue Date:** | 14/04/2021 | **Supersedes date:** | 23/07/2018 |

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 Regular

**Product Identification Numbers**
62-2214-2930-1 62-2214-6530-5 62-2214-8530-3

### 1.2. Recommended use and restrictions on use

**Recommended use**
Adhesive

### 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
Serious Eye Damage/Irritation: Category 2B.
Skin Corrosion/Irritation: Category 3.
Skin Sensitizer: Category 1.
Chronic Aquatic Toxicity: Category 1.
Acute Aquatic Toxicity: Category 2.

### 2.2. Label elements
**Signal Word**
WARNING!

**Symbols**
Exclamation mark |Environment |

**Pictograms**

**HAZARD STATEMENTS:**

| | |
|---|---|
| H320 | Causes eye irritation. |
| H316 | Causes mild skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H401 | Toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**PRECAUTIONARY STATEMENTS**

**Prevention:**

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

**Response:**

| | |
|---|---|
| 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**
None known.

## SECTION 3: Composition/information on ingredients

This material is a mixture.

| Ingredient | CAS Nbr | % by Wt |
|---|---|---|
| Epoxy Resin 1 | 25068-38-6 | 30 - 60 |
| Aluminum Pigments | 7429-90-5 | 15 - 40 |
| Silane, trimethoxyoctyl-, hydrolysis products with silica | 67762-90-7 | 1 - 5 |
| Cyanoguanidine | 461-58-5 | 1 - 5 |
| Epoxy Resin 2 | 41638-13-5 | 1 - 5 |
| Synthetic Elastomer (NJTS Reg No 04499600-5706P) | Trade Secret | 1 - 5 |
| p-Chlorophenyl-Dimethylurea | 150-68-5 | < 2.5 |
| Copper | 7440-50-8 | < 0.002 |

## 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**
Closed containers exposed to heat from fire may build pressure and explode.

**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. Ventilate the area with fresh air. 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. 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 use in a confined area with minimal air exchange. 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**
Keep container tightly closed. Keep cool. Protect from sunlight. Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidising agents. Store in a dry place. 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 | CAS Nbr | Agency | Limit type | Additional comments |
|---|---|---|---|---|
| p-Chlorophenyl-Dimethylurea | 150-68-5 | Manufacturer determined | TWA(Inhalable aerosol)(8 hours):1 mg/m3 | |
| Aluminum Pigments | 7429-90-5 | ACGIH | TWA(respirable fraction):1 mg/m3 | A4: Not class. as human carcin |
| COPPER, DUSTS AND MISTS, AS CU | 7440-50-8 | ACGIH | TWA(as Cu dust or mist):1 mg/m3 | |
| COPPER, FUME AS CU | 7440-50-8 | ACGIH | TWA(as Cu, fume):0.2 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. Provide appropriate local exhaust when product is heated.

**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.

## SECTION 9: Physical and chemical properties

**9.1. Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Solid. |
| **Specific Physical Form:** | Paste |
| **Color** | Gray |
| **Odor** | Epoxy |
| **Odour threshold** | *No data available.* |
| **pH** | *Not applicable.* |
| **Melting point/Freezing point: NA** | *Not applicable.* |
| **Boiling point/Initial boiling point/Boiling range** | >=260 ºC |
| **Flash point** | 248.9 ºC [*Test Method:*Closed Cup] |
| **Evaporation rate** | Negligible |
| **Flammability (solid, gas)** | Not classified |
| **Flammable Limits(LEL)** | *No data available.* |
| **Flammable Limits(UEL)** | *No data available.* |
| **Vapour pressure** | *No data available.* |
| **Vapor Density and/or Relative Vapor Density** | *No data available.* |
| **Density** | 1.44 g/ml [*Ref Std:*WATER=1] |
| **Relative density** | 1.44 [*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** | >= 1,000,000 mPa-s [@ 23 ºC ] |
| **Volatile organic compounds (VOC)** | |
| **Percent volatile** | |
| **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.* |

**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 polymerisation may occur.

**10.4 Conditions to avoid**
Heat.
Sparks and/or flames.
Avoid curing large quantities of material to prevent a premature reaction (exotherm) 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**
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 |
| Aluminum Pigments | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Aluminum Pigments | Ingestion | | LD50 estimated to be > 5,000 mg/kg |
| Aluminum Pigments | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 0.888 mg/l |
| Cyanoguanidine | Dermal | Rabbit | LD50 > 10,000 mg/kg |
| Epoxy Resin 2 | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| Cyanoguanidine | Ingestion | Rat | LD50 > 30,000 mg/kg |
| Epoxy Resin 2 | Ingestion | Rat | LD50 > 2,000 mg/kg |
| Synthetic Elastomer (NJTS Reg No 04499600-5706P) | Dermal | Rabbit | LD50 > 15,000 mg/kg |
| Synthetic Elastomer (NJTS Reg No 04499600-5706P) | Ingestion | Rat | LD50 > 30,000 mg/kg |
| p-Chlorophenyl-Dimethylurea | Dermal | Rabbit | LD50 > 2,500 mg/kg |
| p-Chlorophenyl-Dimethylurea | Ingestion | Rat | LD50 1,480 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 |
| Copper | Dermal | Rat | LD50 > 2,000 mg/kg |
| Copper | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 5.11 mg/l |
| Copper | Ingestion | Rat | LD50 > 2,000 mg/kg |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name | Species | Value |
|---|---|---|
| Epoxy Resin 1 | Rabbit | Mild irritant |
| Aluminum Pigments | Rabbit | No significant irritation |
| Cyanoguanidine | Human and animal | Minimal irritation |
| Epoxy Resin 2 | Rabbit | No significant irritation |
| Synthetic Elastomer (NJTS Reg No 04499600-5706P) | Professional judgement | No significant irritation |
| p-Chlorophenyl-Dimethylurea | similar compounds | Mild irritant |
| Silane, trimethoxyoctyl-, hydrolysis products with silica | Rabbit | No significant irritation |
| Copper | Rabbit | No significant irritation |

**Serious Eye Damage/Irritation**

| Name | Species | Value |
|---|---|---|
| Epoxy Resin 1 | Rabbit | Moderate irritant |
| Aluminum Pigments | Rabbit | No significant irritation |
| Cyanoguanidine | Professional judgement | Mild irritant |
| Epoxy Resin 2 | Rabbit | Moderate irritant |
| Synthetic Elastomer (NJTS Reg No 04499600-5706P) | Professional judgement | No significant irritation |
| p-Chlorophenyl-Dimethylurea | similar | Moderate irritant |

| | | |
|---|---|---|
| | compoun ds | |
| Silane, trimethoxyoctyl-, hydrolysis products with silica | Rabbit | No significant irritation |
| Copper | Rabbit | Mild irritant |

**Sensitization:**

**Skin Sensitisation**

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

**Respiratory Sensitisation**

| Name | Species | Value |
|---|---|---|
| Epoxy Resin 1 | Human | Not classified |
| Aluminum Pigments | 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 |
| Aluminum Pigments | In Vitro | Not mutagenic |
| Cyanoguanidine | In Vitro | Not mutagenic |
| Epoxy Resin 2 | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| p-Chlorophenyl-Dimethylurea | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| p-Chlorophenyl-Dimethylurea | In vivo | Some positive data exist, but the data are not sufficient for classification |
| Silane, trimethoxyoctyl-, hydrolysis products with silica | In Vitro | Not mutagenic |

**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 |
| p-Chlorophenyl-Dimethylurea | Ingestion | Rat | Some positive data exist, but the data are not sufficient for classification |
| Silane, trimethoxyoctyl-, hydrolysis products with silica | Not specified. | Mouse | 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 | 2 generation |

| | | | | | |
|---|---|---|---|---|---|
| | | | | mg/kg/day | |
| 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 |
| p-Chlorophenyl-Dimethylurea | Ingestion | Not classified for development | Mouse | LOAEL 215 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 |

## 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 | |
| p-Chlorophenyl-Dimethylurea | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar compounds | NOAEL Not available | |
| p-Chlorophenyl-Dimethylurea | Ingestion | methemoglobinemia | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | not applicable |

### 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 bladder | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Aluminum Pigments | Inhalation | nervous system \| respiratory system | Not classified | Human | NOAEL Not available | occupational exposure |
| Cyanoguanidine | Ingestion | kidney and/or bladder | Not classified | Rat | NOAEL 6,822 mg/kg/day | 13 weeks |
| p-Chlorophenyl-Dimethylurea | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Mouse | LOAEL 800 mg/kg/day | 103 weeks |
| p-Chlorophenyl-Dimethylurea | Ingestion | kidney and/or bladder | Not classified | Rat | LOAEL 65 mg/kg/day | 103 weeks |
| p-Chlorophenyl-Dimethylurea | Ingestion | immune system | Not classified | Rat | LOAEL 520 mg/kg/day | 13 weeks |

| | | | | | | |
|---|---|---|---|---|---|---|
| Silane, trimethoxyoctyl-, hydrolysis products with silica | Inhalation | respiratory system \| silicosis | Not classified | Human | NOAEL Not available | occupational exposure |

**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 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 | 25068-38-6 | Activated sludge | Estimated | 3 hours | IC50 | >100 mg/l |
| Epoxy Resin 1 | 25068-38-6 | Green Algae | Estimated | 72 hours | EC50 | >11 mg/l |
| Epoxy Resin 1 | 25068-38-6 | Rainbow trout | Estimated | 96 hours | LC50 | 2 mg/l |
| Epoxy Resin 1 | 25068-38-6 | Water flea | Estimated | 48 hours | EC50 | 1.8 mg/l |
| Epoxy Resin 1 | 25068-38-6 | Green Algae | Estimated | 72 hours | NOEC | 4.2 mg/l |
| Epoxy Resin 1 | 25068-38-6 | Water flea | Estimated | 21 days | NOEC | 0.3 mg/l |
| Aluminum Pigments | 7429-90-5 | Fish other | Experimental | 96 hours | No tox obs at lmt of water sol | >100 mg/l |
| Aluminum Pigments | 7429-90-5 | Green Algae | Experimental | 72 hours | No tox obs at lmt of water sol | >100 mg/l |
| Aluminum Pigments | 7429-90-5 | Water flea | Experimental | 48 hours | No tox obs at lmt of water sol | >100 mg/l |
| Aluminum Pigments | 7429-90-5 | Green Algae | Experimental | 72 hours | No tox obs at lmt of water sol | 100 mg/l |
| Aluminum Pigments | 7429-90-5 | Water flea | Experimental | 21 days | NOEC | 0.076 mg/l |
| Silane, trimethoxyoctyl-, hydrolysis products with silica | 67762-90-7 | | Data not available or insufficient for classification | | | N/A |
| Cyanoguanidine | 461-58-5 | Bluegill | Experimental | 96 hours | LC50 | >1,000 mg/l |
| Cyanoguanidine | 461-58-5 | Green algae | Experimental | 72 hours | EC50 | >1,000 mg/l |

| | | | | | | |
|---|---|---|---|---|---|---|
| Cyanoguanidine | 461-58-5 | Water flea | Experimental | 48 hours | EC50 | 3,177 mg/l |
| Cyanoguanidine | 461-58-5 | Green algae | Experimental | 72 hours | NOEC | 310 mg/l |
| Cyanoguanidine | 461-58-5 | Water flea | Experimental | 21 days | NOEC | 25 mg/l |
| Cyanoguanidine | 461-58-5 | Redworm | Experimental | 14 days | LC50 | >3,200 mg/kg (Dry Weight) |
| Epoxy Resin 2 | 41638-13-5 | Golden Orfe | Experimental | 96 hours | LC50 | 67 mg/l |
| Epoxy Resin 2 | 41638-13-5 | Water flea | Experimental | 48 hours | EC50 | 90 mg/l |
| Synthetic Elastomer (NJTS Reg No 04499600-5706P) | Trade Secret | | Data not available or insufficient for classification | | | N/A |
| p-Chlorophenyl-Dimethylurea | 150-68-5 | Algae other | Experimental | 24 hours | EC50 | 0.079 mg/l |
| p-Chlorophenyl-Dimethylurea | 150-68-5 | Fish other | Experimental | 96 hours | LC50 | 3.3 mg/l |
| p-Chlorophenyl-Dimethylurea | 150-68-5 | Water flea | Experimental | 26 hours | EC50 | 106 mg/l |
| p-Chlorophenyl-Dimethylurea | 150-68-5 | Green algae | Experimental | 96 hours | NOEC | 0.01 mg/l |
| Copper | 7440-50-8 | Green Algae | Experimental | 72 hours | NOEC | 0.0003 mg/l |

**12.2. Persistence and degradability**

| Material | CAS Nbr | Test type | Duration | Study Type | Test result | Protocol |
|---|---|---|---|---|---|---|
| Epoxy Resin 1 | 25068-38-6 | Estimated Hydrolysis | | Hydrolytic half-life | 117 hours (t 1/2) | Non-standard method |
| Epoxy Resin 1 | 25068-38-6 | Estimated Biodegradation | 28 days | BOD | 5 %BOD/COD | OECD 301F - Manometric respirometry |
| Aluminum Pigments | 7429-90-5 | Data not available-insufficient | | | N/A | |
| Silane, trimethoxyoctyl-, hydrolysis products with silica | 67762-90-7 | Data not available-insufficient | | | N/A | |
| Cyanoguanidine | 461-58-5 | Experimental Biodegradation | 28 days | Dissolv. Organic Carbon Deplet | 0 %removal of DOC | OECD 301E - Modif. OECD Screen |
| Cyanoguanidine | 461-58-5 | Experimental Aquatic Inherent Biodegrad. | 14 days | Dissolv. Organic Carbon Deplet | 0 %removal of DOC | OECD 302B Zahn-Wellens/EVPA |
| Cyanoguanidine | 461-58-5 | Experimental Biodegradation | 61 days | CO2 evolution | 1.1 %CO2 evolution/THC | OECD 309 Aero Sim Biod Water |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | O2 evolution | |
| Epoxy Resin 2 | 41638-13-5 | Experimental Biodegradation | 28 days | CO2 evolution | 27 %CO2 evolution/THC O2 evolution | OECD 301B - Modified sturm or CO2 |
| Synthetic Elastomer (NJTS Reg No 04499600-5706P) | Trade Secret | Data not available-insufficient | | | N/A | |
| p-Chlorophenyl-Dimethylurea | 150-68-5 | Estimated Biodegradation | 28 days | BOD | 2.1 % BOD/ThBOD | OECD 301C - MITI test (I) |
| Copper | 7440-50-8 | Data not available-insufficient | | | N/A | |

**12.3 : Bioaccumulative potential**

| Material | CAS Nbr | Test type | Duration | Study Type | Test result | Protocol |
|---|---|---|---|---|---|---|
| Epoxy Resin 1 | 25068-38-6 | Estimated Bioconcentration | | Log Kow | 3.242 | Non-standard method |
| Aluminum Pigments | 7429-90-5 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Silane, trimethoxyoctyl-, hydrolysis products with silica | 67762-90-7 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Cyanoguanidine | 461-58-5 | Experimental BCF-Carp | 42 days | Bioaccumulation factor | <=3.1 | OECD305-Bioconcentration |
| Cyanoguanidine | 461-58-5 | Experimental Bioconcentration | | Log Kow | -0.52 | OECD 107 log Kow shke flsk mtd |
| Epoxy Resin 2 | 41638-13-5 | Estimated Bioconcentration | | Bioaccumulation factor | 2 | Estimated: Bioconcentration factor |
| Synthetic Elastomer (NJTS Reg No 04499600-5706P) | Trade Secret | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| p-Chlorophenyl-Dimethylurea | 150-68-5 | Experimental Bioconcentration | | Log Kow | 1.94 | Non-standard method |
| Copper | 7440-50-8 | 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**
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Dispose of waste product 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**

**UN No** UN1845
**Proper Shipping Name** Carbon Dioxide, Solid
**Hazard Classs/Division** 9
**Subsidiary Risk** Not applicable
**Packing Group:** Not applicable

**Marine Transport (IMDG)**
**UN No** UN1845
**Proper Shipping Name** Carbon Dioxide, Solid
**Hazard Classs/Division** 9
**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
Hazardous Chemicals (Classification, Packaging and Labelling Draft Rules), 2011

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

Aluminium
Aluminum Pigments
Copper

The following ingredients are classified as hazardous based on the criteria listed under Part I of Schedule I of the India Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) rules:
The product is classified as Non-Hazardous as per MSIHC Rules, 1989.

## 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:**
Company Telephone information was modified.
Section 1: Emergency telephone information was modified.
Section 1: Product identification numbers information was added.
Label: GHS Classification information was modified.
Label: GHS Environmental Hazard Statements information was modified.
Section 2: Ingredient table information was modified.
Section 04: First Aid - Symptoms and Effects (GHS) information was added.
Section 04: Information on toxicological effects information was deleted.
Section 7: Precautions safe handling information information was modified.
Section 8: Occupational exposure limit table information was modified.
Section 8: Personal Protection - Thermal hazards information information was deleted.
Section 09: Color information was added.
Section 09: Nanoparticle information was added.
Section 09: Odor information was added.
Sections 3 and 9: Odour, colour, grade information information was deleted.
Section 09: Percent Volatile information was added.
Section 9: Property description for optional properties information was added.
Section 9: Property description for optional properties information was deleted.
Section 09: Vapor Density Value information was added.
Section 9: Vapour density value information was deleted.
Section 9: Viscosity information information was deleted.
Section 09: Viscosity information was added.
Section 09: VOC Less H2O & Exempt Solvents information was added.
Section 09: Volatile Organic Compounds information was added.
Section 11: Acute Toxicity table information was modified.
Section 11: Carcinogenicity Table information was modified.
Section 11: Germ Cell Mutagenicity Table information was modified.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Respiratory Sensitization Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Skin Sensitization Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 11: Target Organs - Single Table information was modified.
Section 12: Acute aquatic hazard information information was modified.
Section 12: Chronic aquatic hazard information information was modified.

Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 13: Standard Phrase Category Waste GHS information was modified.
Section 14: IATA transport hazard classes information was modified.
Section 14: IMO transport hazard classes information was modified.
Section 14: Proper Shipping Name (IATA) information was modified.
Section 14: Proper Shipping Name (IMO) information was modified.
Section 14: Transportation Information information was deleted.
Section 14: UN Number (IATA) information was modified.
Section 14: UN Number (IMO) information was modified.
Section 15: Applicable Environmental, Health and Safety Regulations information was modified.
Section 15: MSIHC Ingredients information was modified.
Section 15: MSIHC Part I of Schedule I ingredients information was added.
Sectio 16: UK disclaimer information was deleted.

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 India SDSs are available at http://solutions.3mindia.co.in**