



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.

IDENTIFICATION

1.1. Product identifier

3M™ Scotch-Weld™ Epoxy Adhesive 1838 B/A, Green

Product Identification Numbers

62-1838-0530-8 62-1838-0535-7 62-1838-5430-6 62-1838-6430-5 62-1838-7430-4

1.2. Recommended use and restrictions on use

Recommended use

Two part epoxy adhesive.

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

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

10-3140-0, 10-3139-2

TRANSPORT INFORMATION

This product is a kit that consists of two or more different regulated materials packed in the same outer packaging (ship unit). The transportation classifications of the individual components appear in Section 14 of the attached SDSs.

Marine Transport (IMDG): Other Dangerous Goods Descriptions: Not restricted, as per IMDG code 2.10.2.7, marine pollutant exception.

Air Transport (IATA): 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.

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



Safety Data Sheet

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| | | | |
|------------------------|------------|-------------------------|------------|
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| Issue Date: | 26/02/2019 | Supersedes Date: | 14/07/2014 |

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(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part A

Product Identification Numbers

62-1839-8530-8

1.2. Recommended use and restrictions on use

Recommended use

Structural adhesive

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 1.

Skin Corrosion/Irritation: Category 2.

Skin Sensitizer: Category 1.

Chronic Aquatic Toxicity: Category 2.

2.2. Label elements

Signal word

Danger

Symbols

Corrosion | Exclamation mark | Environment |

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part A

Pictograms



Hazard Statements

| | |
|------|--|
| H318 | Causes serious eye damage. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H411 | Toxic to aquatic life with long lasting effects. |

Precautionary statements

General:

| | |
|------|---|
| P102 | Keep out of reach of children. |
| P101 | If medical advice is needed, have product container or label at hand. |

Prevention:

| | |
|-------|---|
| P280B | Wear protective gloves and eye/face protection. |
| P273 | Avoid release to the environment. |

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. |
| P302 + P352 | IF ON SKIN: Wash with plenty of soap and water. |
| P310 | Immediately call a POISON CENTER or doctor/physician. |
| 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 | C.A.S. No. | % by Wt |
|------------------------|-------------|---------|
| Polyamide Resin | 68410-23-1 | 75 - 85 |
| Kaolin | 1332-58-7 | 10 - 20 |
| Amorphous Silica | 112945-52-5 | 1 - 5 |
| Triethylenetetramine | 112-24-3 | 1 - 5 |
| Chromium oxide (Cr2O3) | 1308-38-9 | <= 1 |
| Titanium Dioxide | 13463-67-7 | < 0.5 |

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part A

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

Skin Contact:

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

Eye Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately 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

See Section 11.1. Information on toxicological effects.

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

| <u>Substance</u> | <u>Condition</u> |
|--------------------|-------------------|
| Amine Compounds | During Combustion |
| Carbon monoxide | During Combustion |
| Carbon dioxide | 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. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part A

solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. Avoid breathing dust/fume/gas/mist/vapors/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 oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

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

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|--------------------------|------------|---------------|---|--------------------------------|
| CHROMIUM (III) COMPOUNDS | 1308-38-9 | ACGIH | TWA(as Cr(III), inhalable fraction):0.003 mg/m ³ ;TWA(as Cr):0.5 mg/m ³ | A4: Not class. as human carcin |
| CHROMIUM (III) COMPOUNDS | 1308-38-9 | Malaysia OELs | TWA(as Cr)(8 hours):0.5 mg/m ³ | |
| Kaolin | 1332-58-7 | ACGIH | TWA(respirable fraction):2 mg/m ³ | A4: Not class. as human carcin |
| Kaolin | 1332-58-7 | Malaysia OELs | TWA (proposed)(respirable fraction)(8 hours):2 mg/m ³ | |
| Titanium Dioxide | 13463-67-7 | ACGIH | TWA:10 mg/m ³ | A4: Not class. as human carcin |
| Titanium Dioxide | 13463-67-7 | Malaysia OELs | TWA(8 hours):10 mg/m ³ | |

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

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/vapors/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:

Full Face Shield

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part A

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 vapors and particulates

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|---|
| Physical state | Liquid |
| Specific Physical Form: | Paste |
| Appearance/Odor | Green, Slight Amine Odor |
| Odor threshold | No Data Available |
| pH | No Data Available |
| Melting point/Freezing point | Not Applicable |
| Boiling point/Initial boiling point/Boiling range | >=121.1 °C |
| Flash Point | >=93.3 °C [Test Method:Closed Cup] |
| Evaporation rate | Not Applicable |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | No Data Available |
| Flammable Limits(UEL) | No Data Available |
| Vapor Pressure | Not Applicable |
| Vapor Density | Not Applicable |
| Density | 1.04 g/cm ³ |
| Relative Density | 1.04 [Ref Std:WATER=1] |
| Water solubility | Nil |
| Solubility- non-water | Not Applicable |
| Partition coefficient: n-octanol/ water | No Data Available |
| Autoignition temperature | No Data Available |
| Decomposition temperature | No Data Available |
| Viscosity | 300 - 1,000 Pa-s [@ 23 °C] |
| Molecular weight | No Data Available |
| VOC Less H ₂ O & Exempt Solvents | 0 g/l [Test Method:calculated SCAQMD rule 443.1] [Details:when used as intended with Part B] |
| VOC Less H ₂ O & Exempt Solvents | 0 g/l [Test Method:calculated SCAQMD rule 443.1] [Details:as supplied] |
| VOC Less H ₂ O & Exempt Solvents | 0 % [Test Method:calculated SCAQMD rule 443.1] [Details:when used as intended with Part B] |

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|------------------|------------------|
|------------------|------------------|

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:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:

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

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.

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part A**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 |
| Polyamide Resin | Dermal | Rat | LD50 > 2,000 mg/kg |
| Polyamide Resin | Ingestion | Rat | LD50 > 2,000 mg/kg |
| Kaolin | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Kaolin | Ingestion | Human | LD50 > 15,000 mg/kg |
| Triethylenetetramine | Dermal | Rabbit | LD50 550 mg/kg |
| Triethylenetetramine | Ingestion | Rat | LD50 2,500 mg/kg |
| Amorphous Silica | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Amorphous Silica | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 0.691 mg/l |
| Amorphous Silica | Ingestion | Rat | LD50 > 5,110 mg/kg |
| Chromium oxide (Cr2O3) | Dermal | Professional judgement | LD50 estimated to be > 5,000 mg/kg |
| Chromium oxide (Cr2O3) | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 5.41 mg/l |
| Chromium oxide (Cr2O3) | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Titanium Dioxide | Dermal | Rabbit | LD50 > 10,000 mg/kg |
| Titanium Dioxide | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 6.82 mg/l |
| Titanium Dioxide | Ingestion | Rat | LD50 > 10,000 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|------------------------|------------------------|---------------------------|
| Polyamide Resin | In vitro data | Irritant |
| Kaolin | Professional judgement | No significant irritation |
| Triethylenetetramine | Rabbit | Corrosive |
| Amorphous Silica | Rabbit | No significant irritation |
| Chromium oxide (Cr2O3) | Rabbit | No significant irritation |
| Titanium Dioxide | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|------------------------|------------------------|---------------------------|
| Polyamide Resin | Rabbit | Corrosive |
| Kaolin | Professional judgement | No significant irritation |
| Triethylenetetramine | Rabbit | Corrosive |
| Amorphous Silica | Rabbit | No significant irritation |
| Chromium oxide (Cr2O3) | Rabbit | No significant irritation |
| Titanium Dioxide | Rabbit | No significant irritation |

Skin Sensitization

| Name | Species | Value |
|----------------------|---------|-------------|
| Polyamide Resin | Mouse | Sensitizing |
| Triethylenetetramine | Guinea | Sensitizing |

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part A

| | | |
|------------------------|-------------------|----------------|
| | pig | |
| Amorphous Silica | Human and animal | Not classified |
| Chromium oxide (Cr2O3) | similar compounds | Not classified |
| Titanium Dioxide | Human and animal | Not classified |

Respiratory Sensitization

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

Germ Cell Mutagenicity

| Name | Route | Value |
|------------------------|----------|--|
| Polyamide Resin | In Vitro | Not mutagenic |
| Amorphous Silica | In Vitro | Not mutagenic |
| Chromium oxide (Cr2O3) | In vivo | Not mutagenic |
| Chromium oxide (Cr2O3) | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Titanium Dioxide | In Vitro | Not mutagenic |
| Titanium Dioxide | In vivo | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|------------------------|---------------|-------------------------|--|
| Kaolin | Inhalation | Multiple animal species | Not carcinogenic |
| Amorphous Silica | Not Specified | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Chromium oxide (Cr2O3) | Ingestion | Rat | Not carcinogenic |
| Titanium Dioxide | Ingestion | Multiple animal species | Not carcinogenic |
| Titanium Dioxide | Inhalation | Rat | Carcinogenic |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|------------------------|-----------|--|---------|-----------------------|----------------------------|
| Polyamide Resin | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | prematuring into lactation |
| Polyamide Resin | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 6 weeks |
| Polyamide Resin | Ingestion | Not classified for development | Rat | NOAEL 1,000 mg/kg/day | prematuring into lactation |
| Amorphous Silica | Ingestion | Not classified for female reproduction | Rat | NOAEL 509 mg/kg/day | 1 generation |
| Amorphous Silica | Ingestion | Not classified for male reproduction | Rat | NOAEL 497 mg/kg/day | 1 generation |
| Amorphous Silica | Ingestion | Not classified for development | Rat | NOAEL 1,350 mg/kg/day | during organogenesis |
| Chromium oxide (Cr2O3) | Ingestion | Not classified for female reproduction | Rat | NOAEL 2,000 mg/kg/day | 90 days |
| Chromium oxide (Cr2O3) | Ingestion | Not classified for male reproduction | Rat | NOAEL 2,000 mg/kg/day | 90 days |

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part A

| | | | | | |
|------------------------|-----------|--------------------------------|-----|-----------------------------|---------|
| | | | | mg/kg/day | |
| Chromium oxide (Cr2O3) | Ingestion | Not classified for development | Rat | NOAEL 2,000 mg/kg/day | 90 days |

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|------------------------|------------|------------------------|--|------------------------|---------------------|-------------------|
| Polyamide Resin | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |
| Chromium oxide (Cr2O3) | Inhalation | respiratory system | Not classified | Rat | NOAEL 40 mg | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|------------------------|------------|--|--|---------|-----------------------------|-----------------------|
| Polyamide Resin | Ingestion | heart liver immune system endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system nervous system kidney and/or bladder respiratory system vascular system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 6 weeks |
| Kaolin | Inhalation | pneumoconiosis | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL NA | occupational exposure |
| Kaolin | Inhalation | pulmonary fibrosis | Not classified | Rat | NOAEL Not available | |
| Amorphous Silica | Inhalation | respiratory system silicosis | Not classified | Human | NOAEL Not available | occupational exposure |
| Chromium oxide (Cr2O3) | Inhalation | immune system respiratory system hematopoietic system liver kidney and/or bladder | Not classified | Rat | NOAEL 44 mg/m3 | 90 days |
| Titanium Dioxide | Inhalation | respiratory system | Some positive data exist, but the data are not sufficient for classification | Rat | LOAEL 0.01 mg/l | 2 years |
| Titanium Dioxide | Inhalation | pulmonary fibrosis | Not classified | Human | NOAEL Not available | occupational exposure |

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.

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part A

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 |
|------------------------|-------------|-------------|--------------|----------|--------------------------|--------------|
| Polyamide Resin | 68410-23-1 | Water flea | Estimated | 48 hours | Effect Concentration 50% | 5.18 mg/l |
| Polyamide Resin | 68410-23-1 | Zebra Fish | Estimated | 96 hours | Lethal Concentration 50% | 7.07 mg/l |
| Polyamide Resin | 68410-23-1 | Green algae | Experimental | 72 hours | Effect Concentration 50% | 4.11 mg/l |
| Polyamide Resin | 68410-23-1 | Green algae | Experimental | 72 hours | No obs Effect Conc | 1.25 mg/l |
| Kaolin | 1332-58-7 | Water flea | Experimental | 48 hours | Lethal Concentration 50% | >1,100 mg/l |
| Amorphous Silica | 112945-52-5 | Green Algae | Experimental | 72 hours | Effect Concentration 50% | >100 mg/l |
| Amorphous Silica | 112945-52-5 | Water flea | Experimental | 24 hours | Effect Concentration 50% | >100 mg/l |
| Amorphous Silica | 112945-52-5 | Zebra Fish | Experimental | 96 hours | Lethal Concentration 50% | >100 mg/l |
| Amorphous Silica | 112945-52-5 | Green Algae | Experimental | 72 hours | No obs Effect Conc | 60 mg/l |
| Triethylenetetramine | 112-24-3 | Green Algae | Experimental | 72 hours | Effect Concentration 50% | 27.4 mg/l |
| Triethylenetetramine | 112-24-3 | Guppy | Experimental | 96 hours | Lethal Concentration 50% | 570 mg/l |
| Triethylenetetramine | 112-24-3 | Water flea | Experimental | 48 hours | Effect Concentration 50% | 37.4 mg/l |
| Triethylenetetramine | 112-24-3 | Green Algae | Experimental | 72 hours | No obs Effect Conc | 0.468 mg/l |
| Triethylenetetramine | 112-24-3 | Water flea | Experimental | 21 days | No obs Effect Conc | 2.86 mg/l |
| Chromium oxide (Cr2O3) | 1308-38-9 | Zebra Fish | Experimental | 96 hours | Lethal Concentration 50% | >100 mg/l |
| Titanium Dioxide | 13463-67-7 | Diatom | Experimental | 72 hours | Effect Concentration 50% | >10,000 mg/l |

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| | | | | | | |
|------------------|------------|----------------|--------------|----------|--------------------------|------------|
| Titanium Dioxide | 13463-67-7 | Fathead Minnow | Experimental | 96 hours | Lethal Concentration 50% | >100 mg/l |
| Titanium Dioxide | 13463-67-7 | Water flea | Experimental | 48 hours | Effect Concentration 50% | >100 mg/l |
| Titanium Dioxide | 13463-67-7 | Diatom | Experimental | 72 hours | No obs Effect Conc | 5,600 mg/l |

12.2. Persistence and degradability

| Material | CAS No. | Test Type | Duration | Study Type | Test Result | Protocol |
|------------------------|-------------|-------------------------------|----------|--------------------------|----------------|--------------------------------|
| Polyamide Resin | 68410-23-1 | Experimental Biodegradation | 28 days | Biological Oxygen Demand | 15 % BOD/ThBOD | OECD 301D - Closed Bottle Test |
| Kaolin | 1332-58-7 | Data not availbl-insufficient | | | N/A | |
| Amorphous Silica | 112945-52-5 | Data not availbl-insufficient | | | N/A | |
| Triethylenetetra mine | 112-24-3 | Experimental Biodegradation | 20 days | Biological Oxygen Demand | 0 % BOD/ThBOD | OECD 301D - Closed Bottle Test |
| Chromium oxide (Cr2O3) | 1308-38-9 | Data not availbl-insufficient | | | N/A | |
| Titanium Dioxide | 13463-67-7 | Data not availbl-insufficient | | | N/A | |

12.3. Bioaccumulative potential

| Material | CAS No. | Test Type | Duration | Study Type | Test Result | Protocol |
|------------------------|-------------|---|----------|------------------------|-------------|--------------------------------|
| Polyamide Resin | 68410-23-1 | Estimated Bioconcentration | | Bioaccumulation Factor | 6.8 | Est: Bioconcentration factor |
| Kaolin | 1332-58-7 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Amorphous Silica | 112945-52-5 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Triethylenetetra mine | 112-24-3 | Experimental BCF-Carp | 42 days | Bioaccumulation Factor | <5.0 | OECD 305E-Bioaccum FI-thru fis |
| Chromium oxide (Cr2O3) | 1308-38-9 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Titanium Dioxide | 13463-67-7 | Experimental BCF-Carp | 42 days | Bioaccumulation Factor | 9.6 | Other methods |

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:

None assigned.

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:

None assigned.

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

SECTION 15: Regulatory information

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

Global inventory status

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

SECTION 16: Other information

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

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



Safety Data Sheet

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| | | | |
|------------------------|------------|-------------------------|------------|
| Document Group: | 10-3139-2 | Version Number: | 7.00 |
| Issue Date: | 25/07/2019 | Supersedes Date: | 26/02/2019 |

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(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part B

Product Identification Numbers

62-1838-8530-0

1.2. Recommended use and restrictions on use

Recommended use

Structural adhesive

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.

Acute Aquatic Toxicity: Category 1.

Chronic Aquatic Toxicity: Category 2.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark | Environment |

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part B

Pictograms



Hazard Statements

| | |
|------|--|
| H319 | Causes serious eye irritation. |
| H317 | May cause an allergic skin reaction. |
| H400 | Very toxic to aquatic life. |
| H411 | Toxic to aquatic life with long lasting effects. |

Precautionary statements

General:

| | |
|------|---|
| P102 | Keep out of reach of children. |
| P101 | If medical advice is needed, have product container or label at hand. |

Prevention:

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

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

None known

SECTION 3: Composition/information on ingredients

This material is a mixture.

| Ingredient | C.A.S. No. | % by Wt |
|----------------------------------|--------------|---------|
| Epoxy Resin | 25068-38-6 | 70 - 80 |
| Kaolin | 1332-58-7 | 20 - 30 |
| Calcium Carbonate | 1317-65-3 | 1 - 5 |
| Clay (NJTS Reg No 04499600-7159) | Trade Secret | 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

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part B

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

See Section 11.1. Information on toxicological effects.

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

| <u>Substance</u> | <u>Condition</u> |
|------------------|-------------------|
| Aldehydes | During Combustion |
| Hydrocarbons | During Combustion |
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |
| Ketones | During Combustion |

5.3. Special protective actions for fire-fighters

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

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

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

For industrial/occupational use only. Not for consumer sale or use. Avoid breathing dust/fume/gas/mist/vapors/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 oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

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

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|-------------------------|------------|---------------|--|--------------------------------|
| Calcium Carbonate | 1317-65-3 | Malaysia OELs | TWA (proposed)(8 hours):10 mg/m ³ | |
| CAS NO SEQ117921 | 1332-58-7 | ACGIH | TWA(inhalable particulates):10 mg/m ³ | |
| CAS NO SEQ117922 | 1332-58-7 | ACGIH | TWA(respirable particles):3 mg/m ³ | |
| DUST, INERT OR NUISANCE | 1332-58-7 | Malaysia OELs | TWA (proposed)(Inhalable particulate)(8 hours):10 mg/m ³ ;TWA (proposed)(respirable particles)(8 hours):3 mg/m ³ | |
| Kaolin | 1332-58-7 | ACGIH | TWA(respirable fraction):2 mg/m ³ | A4: Not class. as human carcin |
| Kaolin | 1332-58-7 | Malaysia OELs | TWA (proposed)(respirable fraction)(8 hours):2 mg/m ³ | |

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**

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/vapors/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

Under normal use conditions, airborne exposures are not expected to be significant enough to require respiratory protection.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

| | |
|--|---|
| Physical state | Liquid |
| Specific Physical Form: | Viscous Liquid |
| Appearance/Odor | White, Mild Epoxy Odor |
| Odor threshold | <i>No Data Available</i> |
| pH | <i>Not Applicable</i> |
| Melting point/Freezing point | <i>No Data Available</i> |
| Boiling point/Initial boiling point/Boiling range | ≥ 148.9 °C |
| Flash Point | ≥ 93.3 °C [<i>Test Method</i> :Closed Cup] |
| Evaporation rate | <i>Not Applicable</i> |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | <i>No Data Available</i> |
| Flammable Limits(UEL) | <i>No Data Available</i> |
| Vapor Pressure | <i>No Data Available</i> |
| Vapor Density | <i>Not Applicable</i> |
| Density | 1.3 g/cm ³ |
| Relative Density | 1.37 [<i>Ref Std</i> :WATER=1] |
| Water solubility | Negligible |
| Solubility- non-water | Nil |
| Partition coefficient: n-octanol/ water | <i>No Data Available</i> |
| Autoignition temperature | <i>No Data Available</i> |
| Decomposition temperature | <i>No Data Available</i> |
| Viscosity | 400,000 mPa-s [<i>@ 73</i>] [<i>Test Method</i> :Brookfield] |
| Molecular weight | <i>No Data Available</i> |
| VOC Less H₂O & Exempt Solvents | 0 g/l [<i>Test Method</i> :calculated SCAQMD rule 443.1] [<i>Details</i> :when used as intended with Part A] |
| VOC Less H₂O & Exempt Solvents | 0 g/l [<i>Test Method</i> :calculated SCAQMD rule 443.1] [<i>Details</i> :as supplied] |
| VOC Less H₂O & Exempt Solvents | 0 % [<i>Test Method</i> :calculated SCAQMD rule 443.1] [<i>Details</i> :when used as intended with Part A] |

SECTION 10: Stability and reactivity**10.1. Reactivity**

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

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part B

Hazardous polymerization will not occur.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Strong acids
Strong oxidizing agents

10.6. Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|------------------|------------------|
| 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:

This product may have a characteristic odor; however, no adverse health effects are anticipated.

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 diarrhea.

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 |
| Kaolin | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Kaolin | Ingestion | Human | LD50 > 15,000 mg/kg |

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part B

| | | | |
|----------------------------------|--------------------------------|-----|------------------------------------|
| Clay (NJTS Reg No 04499600-7159) | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Clay (NJTS Reg No 04499600-7159) | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 12.6 mg/l |
| Clay (NJTS Reg No 04499600-7159) | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Calcium Carbonate | Dermal | Rat | LD50 > 2,000 mg/kg |
| Calcium Carbonate | Inhalation-Dust/Mist (4 hours) | Rat | LC50 3 mg/l |
| Calcium Carbonate | Ingestion | Rat | LD50 6,450 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|----------------------------------|------------------------|---------------------------|
| Epoxy Resin | Rabbit | Mild irritant |
| Kaolin | Professional judgement | No significant irritation |
| Clay (NJTS Reg No 04499600-7159) | Rat | No significant irritation |
| Calcium Carbonate | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|----------------------------------|------------------------|---------------------------|
| Epoxy Resin | Rabbit | Moderate irritant |
| Kaolin | Professional judgement | No significant irritation |
| Clay (NJTS Reg No 04499600-7159) | Rabbit | No significant irritation |
| Calcium Carbonate | Rabbit | No significant irritation |

Skin Sensitization

| Name | Species | Value |
|-------------|------------------|-------------|
| Epoxy Resin | Human and animal | Sensitizing |

Respiratory Sensitization

| Name | Species | Value |
|-------------|---------|----------------|
| Epoxy Resin | Human | Not classified |

Germ Cell Mutagenicity

| Name | Route | Value |
|-------------|----------|--|
| Epoxy Resin | In vivo | Not mutagenic |
| Epoxy Resin | In Vitro | Some positive data exist, but the data are not sufficient for classification |

Carcinogenicity

| Name | Route | Species | Value |
|-------------|------------|-------------------------|--|
| Epoxy Resin | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Kaolin | Inhalation | Multiple animal species | Not carcinogenic |

Reproductive Toxicity

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part B**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|-------------------|-----------|--|---------|---------------------|-----------------------------|
| Epoxy Resin | Ingestion | Not classified for female reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Epoxy Resin | Ingestion | Not classified for male reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Epoxy Resin | Dermal | Not classified for development | Rabbit | NOAEL 300 mg/kg/day | during organogenesis |
| Epoxy Resin | Ingestion | Not classified for development | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Calcium Carbonate | Ingestion | Not classified for development | Rat | NOAEL 625 mg/kg/day | prematng & during gestation |

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-------------------|------------|--------------------|----------------|---------|------------------|-------------------|
| Calcium Carbonate | Inhalation | respiratory system | Not classified | Rat | NOAEL 0.812 mg/l | 90 minutes |

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 |
| Kaolin | Inhalation | pneumoconiosis | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL NA | occupational exposure |
| Kaolin | Inhalation | pulmonary fibrosis | Not classified | Rat | NOAEL Not available | |
| Calcium Carbonate | Inhalation | respiratory system | 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 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

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part B

Acute aquatic hazard:

GHS Acute 1: Very 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 |
|----------------------------------|--------------|---------------|--------------|----------|--------------------------|-------------|
| Epoxy Resin | 25068-38-6 | Rainbow Trout | Estimated | 96 hours | Lethal Concentration 50% | 2 mg/l |
| Epoxy Resin | 25068-38-6 | Water flea | Estimated | 48 hours | Lethal Concentration 50% | 1.8 mg/l |
| Epoxy Resin | 25068-38-6 | Green Algae | Experimental | 72 hours | Effect Concentration 50% | >11 mg/l |
| Epoxy Resin | 25068-38-6 | Green Algae | Experimental | 72 hours | No obs Effect Conc | 4.2 mg/l |
| Epoxy Resin | 25068-38-6 | Water flea | Experimental | 21 days | No obs Effect Conc | 0.3 mg/l |
| Kaolin | 1332-58-7 | Water flea | Experimental | 48 hours | Lethal Concentration 50% | >1,100 mg/l |
| Calcium Carbonate | 1317-65-3 | Green algae | Estimated | 72 hours | Effect Concentration 50% | >100 mg/l |
| Calcium Carbonate | 1317-65-3 | Rainbow Trout | Estimated | 96 hours | Lethal Concentration 50% | >100 mg/l |
| Calcium Carbonate | 1317-65-3 | Water flea | Estimated | 48 hours | Effect Concentration 50% | >100 mg/l |
| Calcium Carbonate | 1317-65-3 | Green algae | Estimated | 72 hours | Effect Concentration 10% | >100 mg/l |
| Clay (NJTS Reg No 04499600-7159) | Trade Secret | Green algae | Estimated | 72 hours | Effect Concentration 50% | >100 mg/l |
| Clay (NJTS Reg No 04499600-7159) | Trade Secret | Water flea | Estimated | 48 hours | Effect Concentration 50% | >100 mg/l |
| Clay (NJTS Reg No 04499600-7159) | Trade Secret | Zebra Fish | Estimated | 96 hours | Lethal Concentration 50% | >100 mg/l |

12.2. Persistence and degradability

| Material | CAS No. | Test Type | Duration | Study Type | Test Result | Protocol |
|-------------|------------|--------------|----------|------------|--------------|---------------|
| Epoxy Resin | 25068-38-6 | Experimental | | Hydrolytic | 117 hours (t | Other methods |

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part B

| | | | | | | |
|----------------------------------|--------------|--------------------------------|---------|--------------------------|---------------|--------------------------------|
| | | Hydrolysis | | half-life | 1/2) | |
| Epoxy Resin | 25068-38-6 | Experimental Biodegradation | 28 days | Biological Oxygen Demand | 5 %BOD/COD | OECD 301F - Manometric Respiro |
| Kaolin | 1332-58-7 | Data not availbl- insufficient | | | N/A | |
| Calcium Carbonate | 1317-65-3 | Data not availbl- insufficient | | | N/A | |
| Clay (NJTS Reg No 04499600-7159) | Trade Secret | Estimated Biodegradation | 28 days | Biological Oxygen Demand | 3 % BOD/ThBOD | OECD 301D - Closed Bottle Test |

12.3. Bioaccumulative potential

| Material | CAS No. | Test Type | Duration | Study Type | Test Result | Protocol |
|----------------------------------|--------------|---|----------|---|-------------|---------------|
| Epoxy Resin | 25068-38-6 | Experimental Bioconcentration | | Log of Octanol/H ₂ O part. coeff | 3.242 | Other methods |
| Kaolin | 1332-58-7 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Calcium Carbonate | 1317-65-3 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Clay (NJTS Reg No 04499600-7159) | Trade Secret | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available

SECTION 13: Disposal considerations**13.1. Disposal methods**

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

SECTION 14: Transport Information**Marine Transport (IMDG)**

UN Number:None assigned.

3M(TM) Scotch-Weld(TM) Epoxy Adhesive 1838 Green Part B

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:
None assigned.

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:
None assigned.

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

SECTION 15: Regulatory information

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

Global inventory status

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

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

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