

Safety Data Sheet

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 Document Group:
 11-3165-5
 Version Number:
 11.01

 Issue Date:
 01/15/20
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Product identifier

3MTM Scotch-WeldTM Epoxy Adhesive 1838 B/A, Green

ID Number(s):

62-1838-0530-8, 62-1838-0535-7, 62-1838-5430-6, 62-1838-6430-5, 62-1838-6440-4, 62-1838-7430-4, 62-1838-7440-3

7000000810, 7010330052, 7010295295, 7000046340, 7000121212

Recommended use

Two part epoxy adhesive.

Supplier's details

MANUFACTURER: 3M

DIVISION: Industrial Adhesives and Tapes Division

ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA

Telephone: 1-888-3M HELPS (1-888-364-3577)

Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:

10-3140-0, 10-3139-2

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 Document Group:
 10-3139-2
 Version Number:
 29.04

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 06/06/22
 Supercedes Date:
 01/15/20

SECTION 1: Identification

1.1. Product identifier

3MTM Scotch-WeldTM Epoxy Adhesive 1838 Green Part B

Product Identification Numbers

62-1838-8530-0 7010367213

1.2. Recommended use and restrictions on use

Recommended use

Structural adhesive

1.3. Supplier's details

MANUFACTURER: 3M

DIVISION: Industrial Adhesives and Tapes Division **ADDRESS:** 3M Center, St. Paul, MN 55144-1000, USA

Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2B. Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms



Hazard Statements

Causes eye irritation.

May cause an allergic skin reaction.

Precautionary Statements

Prevention:

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wear protective gloves.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If eye irritation persists: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water.

If skin irritation or rash occurs: Get medical advice/attention.

Wash contaminated clothing before reuse.

Disposal:

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

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Epoxy Resin	25068-38-6	70 - 80 Trade Secret *
Kaolin	1332-58-7	20 - 30 Trade Secret *
Calcium Carbonate	1317-65-3	1 - 5 Trade Secret *
Clay (NJTS Reg. No. 04499600-7159)	Trade Secret*	1 - 5 Trade Secret *
Titanium Dioxide	13463-67-7	< 2 Trade Secret *

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

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:

^{*}The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

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.

Can di4: an

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Hydrocarbons	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion
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	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, inhalable particles	1317-65-3	ACGIH	TWA(inhalable particulates):10 mg/m3	
Particles (insoluble or poorly soluble) not otherwise specified, respirable particles	1317-65-3	ACGIH	TWA(respirable particles):3 mg/m3	
DUST, INERT OR NUISANCE	1332-58-7	OSHA	TWA(as total dust):15 mg/m3;TWA(as total dust):50 millions of particles/cu. ft.(15 mg/m3);TWA(respirable fraction):5 mg/m3;TWA(respirable fraction):15 millions of particles/cu. ft.(5 mg/m3)	
Kaolin	1332-58-7	ACGIH	TWA(respirable fraction):2 mg/m3	A4: Not class. as human carcin
KAOLIN, TOTAL DUST	1332-58-7	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m3	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	OSHA	TWA(as total dust):15 mg/m3	

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

CMRG: Chemical Manufacturer's Recommended Guidelines

OSHA: United States Department of Labor - Occupational Safety and Health Administration

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

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

Appearance

Physical stateLiquidColorWhite

Specific Physical Form:Viscous LiquidOdorMild EpoxyOdor thresholdNo Data AvailablepHNot Applicable

Melting pointNo Data AvailableBoiling Point>=300 °F

Flash Point >=200 °F [Test Method:Closed Cup]

Evaporation rateNot ApplicableFlammability (solid, gas)Not ApplicableFlammable Limits(LEL)No Data AvailableFlammable Limits(UEL)No Data AvailableVapor PressureNo Data AvailableVapor DensityNo Data Available

Density 1.3 g/cm³

Specific Gravity 1.37 [Ref Std:WATER=1]

Solubility in WaterNegligibleSolubility- non-waterNil

Partition coefficient: n-octanol/ waterNo Data AvailableAutoignition temperatureNo Data AvailableDecomposition temperatureNo Data Available

Viscosity 400,000 centipoise [@ 73] [Test Method: Brookfield]

Hazardous Air Pollutants 0 % weight [Test Method: Calculated]

3MTM Scotch-WeldTM Epoxy Adhesive 1838 Green Part B

06/06/22

Molecular weight No Data Available

VOC Less H2O & Exempt Solvents 0 g/l [Test Method:calculated SCAQMD rule 443.1]

[Details: when used as intended with Part A]

VOC Less H2O & Exempt Solvents 0 g/l [*Test Method*:calculated SCAQMD rule 443.1] [*Details*:as

supplied]

VOC Less H2O & Exempt Solvents 0 % [Test Method:calculated SCAQMD rule 443.1]

[Details: 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

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

Substance

None known.

Condition

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:

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.

Carcinogenicity:

<u>Ingredient</u>	CAS No.	Class Description	Regulation
Titanium dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

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
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
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
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	Professio	No significant irritation		
	nal			
	judgeme			
	nt			
Clay (NJTS Reg. No. 04499600-7159)	Rat	No significant irritation		
Titanium Dioxide	Rabbit	No significant irritation		
Calcium Carbonate	Rabbit	No significant irritation		

Serious Eye Damage/Irritation

Name	Species	Value
Epoxy Resin	Rabbit	Moderate irritant
Kaolin	Professio	No significant irritation
	nal	
	judgeme	
	nt	
Clay (NJTS Reg. No. 04499600-7159)	Rabbit	No significant irritation

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Titanium Dioxide	Rabbit	No significant irritation
Calcium Carbonate	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
Epoxy Resin	Human	Sensitizing
	and	
	animal	
Titanium Dioxide	Human	Not classified
	and	
	animal	

Respiratory Sensitization

I	Name	Species	Value
]	Epoxy Resin	Human	Not classified

Germ Cell Mutagenicity

our meet management		
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
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Epoxy Resin	Dermal	Mouse	Some positive data exist, but the data are not
			sufficient for classification
Kaolin	Inhalation	Multiple	Not carcinogenic
		animal	
		species	
Titanium Dioxide	Ingestion	Multiple	Not carcinogenic
		animal	
		species	
Titanium Dioxide	Inhalation	Rat	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Epoxy Resin	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy Resin	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
Epoxy Resin	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesi s
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	premating & 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	90 minutes

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- 1			0.010 //	
			[() X [2 mg/] [
			0.012 1112/1	

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	
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
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

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

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

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Not applicable

Health Hazards

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

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.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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.

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 07/25/18

SECTION 1: Identification

1.1. Product identifier

3MTM Scotch-WeldTM Epoxy Adhesive 1838 Green Part A

Product Identification Numbers

ID Number UPC ID Number UPC

62-1839-8530-8 00-21200-20160-8

7010309728

1.2. Recommended use and restrictions on use

Recommended use

Structural adhesive

1.3. Supplier's details

MANUFACTURER: 3M

DIVISION: Industrial Adhesives and Tapes Division **ADDRESS:** 3M Center, St. Paul, MN 55144-1000, USA

Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 1. Skin Corrosion/Irritation: Category 2. Skin Sensitizer: Category 1A.

2.2. Label elements

Signal word

Danger

Symbols

Corrosion | Exclamation mark |

Pictograms



Hazard Statements

Causes serious eye damage.

Causes skin irritation.

May cause an allergic skin reaction.

Precautionary Statements

Prevention:

Avoid breathing dust/fume/gas/mist/vapors/spray.

Wear protective gloves and eye/face protection.

Wash thoroughly after handling.

Contaminated work clothing must not be allowed out of the workplace.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF ON SKIN: Wash with plenty of soap and water.

Immediately call a POISON CENTER or doctor/physician.

If skin irritation or rash occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

Disposal:

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

Supplemental Information:

Persons previously sensitized to amines may develop a cross-sensitization reaction to certain other amines.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Polyamide Resin	68410-23-1	55 - 85 Trade Secret *
Kaolin	1332-58-7	10 - 20 Trade Secret *
Triethylenetetramine	112-24-3	1 - 10 Trade Secret *
Amorphous Silica	112945-52-5	1 - 5 Trade Secret *
Chromium oxide (Cr2O3)	1308-38-9	<= 1 Trade Secret *
Titanium Dioxide	13463-67-7	< 0.5 Trade Secret *

^{*}The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

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

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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

Allergic skin reaction (redness, swelling, blistering, and itching). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision).

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance	<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 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
Triethylenetetramine	112-24-3	AIHA	TWA:6 mg/m3(1 ppm)	SKIN
SILICA, AMORPHOUS	112945-52- 5	OSHA	TWA:20 millions of particles/cu. ft.;TWA concentration:0.8 mg/m3	
CHROMIUM (II) COMPOUNDS	1308-38-9	OSHA	TWA(as Cr):0.5 mg/m3	
CHROMIUM (III) COMPOUNDS	1308-38-9	ACGIH	TWA(as Cr(III), inhalable fraction):0.003 mg/m3;TWA(as Cr):0.5 mg/m3	A4: Not class. as human carcin
CHROMIUM (III) COMPOUNDS	1308-38-9	OSHA	TWA(as Cr):0.5 mg/m3	
Chromium(3+), soluble salts	1308-38-9	ACGIH	TWA(as Cr(III), inhalable fraction):0.003 mg/m3	A4: Not class. as human carcin, Dermal/Respiratory Sensitizer
Chromium, insoluble salts	1308-38-9	OSHA	TWA(as Cr):1 mg/m3	
DUST, INERT OR NUISANCE	1332-58-7	OSHA	TWA(as total dust):15 mg/m3;TWA(as total dust):50 millions of particles/cu. ft.(15 mg/m3);TWA(respirable fraction):5 mg/m3;TWA(respirable fraction):15 millions of particles/cu. ft.(5 mg/m3)	
Kaolin	1332-58-7	ACGIH	TWA(respirable fraction):2 mg/m3	A4: Not class. as human carcin
KAOLIN, TOTAL DUST	1332-58-7	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m3	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	OSHA	TWA(as total dust):15 mg/m3	

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

CMRG: Chemical Manufacturer's Recommended Guidelines

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OSHA: United States Department of Labor - Occupational Safety and Health Administration

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

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

Appearance

Physical state Liquid Color Green

Specific Physical Form: Paste

OdorSlight AmineOdor thresholdNo Data AvailablepHNo Data AvailableMelting pointNot ApplicableBoiling Point>=250 °F

Flash Point >=200 °F [Test Method: Closed Cup]

Evaporation rateNot ApplicableFlammability (solid, gas)Not ApplicableFlammable Limits(LEL)No Data AvailableFlammable Limits(UEL)No Data AvailableVapor PressureNot Applicable

Vapor DensityNot ApplicableDensity1.04 g/cm3

Specific Gravity 1.04 [Ref Std:WATER=1]

Solubility in Water

Solubility- non-water

Partition coefficient: n-octanol/ water

No Data Available
No Data Available
No Data Available

Autoignition temperatureNo Data AvailableDecomposition temperatureNo Data AvailableViscosity3,000 - 10,000 poise [@, 73.4 °F]

Hazardous Air Pollutants 0.9 % weight [Test Method: Calculated]

Molecular weight No Data Available

VOC Less H2O & Exempt Solvents 0 g/l [Test Method:calculated SCAQMD rule 443.1]

[Details: when used as intended with Part B]

VOC Less H2O & Exempt Solvents 0 g/l [Test Method:calculated SCAQMD rule 443.1] [Details:as

supplied]

VOC Less H2O & 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

Substance Condition

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

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.

Carcinogenicity:

Ingredient	CAS No.	Class Description	Regulation
Titanium dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Additional Information:

Persons previously sensitized to amines may develop a cross-sensitization reaction to certain other amines.

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
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 1,465 mg/kg
Triethylenetetramine	Ingestion	Rat	LD50 1,591 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	Professio nal judgeme nt	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

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Skin Corrosion/Irritation

Name	Species	Value
Polyamide Resin	In vitro	Irritant
	data	
Kaolin	Professio	No significant irritation
	nal	
	judgeme	
	nt	
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	Professio	No significant irritation
	nal	
	judgeme	
	nt	
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
	pig	
Amorphous Silica	Human	Not classified
	and	
	animal	
Chromium oxide (Cr2O3)	similar	Not classified
	compoun	
	ds	
Titanium Dioxide	Human	Not classified
	and	
	animal	

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		
Triethylenetetramine	In vivo	Not mutagenic		
Triethylenetetramine	In Vitro	Some positive data exist, but the data are not sufficient for classification		
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	Not carcinogenic
		animal	

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		species	
Triethylenetetramine	Dermal	Mouse	Not carcinogenic
Amorphous Silica	Not	Mouse	Some positive data exist, but the data are not
	Specified		sufficient for classification
Chromium oxide (Cr2O3)	Ingestion	Rat	Not carcinogenic
Titanium Dioxide	Ingestion	Multiple	Not carcinogenic
		animal	_
		species	
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	premating 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	premating into lactation
Triethylenetetramine	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	during organogenesi s
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 organogenesi s
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
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	similar health	NOAEL Not available	
Triethylenetetramine	Inhalation	respiratory irritation	classification 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	Not classified	Rat	NOAEL 1,000 mg/kg/day	6 weeks

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		respiratory system vascular system				
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

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

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

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. 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

For Transport Information, please visit http://3M.com/Transportinfo or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Not applicable

Health Hazards

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

Skin Corrosion or Irritation

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

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.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: Other information

NFPA Hazard Classification

Health: 3 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.

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