

Safety Data Sheet

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 Document Group:
 11-3213-3
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 02/21/15
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 08/29/12

Product identifier

3MTM Scotch-WeldTM Adhesive/Sealant EC-3537-NA B/A

ID Number(s):

62-3503-5440-3, 62-3503-7440-1, 70-0052-0626-6

Recommended use

2-Part Epoxy Adhesive/Sealant, Industrial use

Supplier's details

MANUFACTURER: 3M

DIVISION: Aerospace and Commercial Transportation 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:

11-0006-4, 11-0005-6

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3MTM Scotch-WeldTM Adhesive/Sealant EC-3537-NA B/A 02/21/15

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 11-0005-6
 Version Number:
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 Issue Date:
 02/21/15
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SECTION 1: Identification

1.1. Product identifier

3MTM Scotch-WeldTM Epoxy Adhesive EC-3537-NA B/A Part B

1.2. Recommended use and restrictions on use

Recommended use

Base of 2-Part Adhesive, Industrial use

1.3. Supplier's details

MANUFACTURER: 3M

DIVISION: Aerospace and Commercial Transportation 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

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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.

2.3. Hazards not otherwise classified

None.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|-------------|------------|------------------------|
| Epoxy Resin | 25068-38-6 | 70 - 90 Trade Secret * |
| Kaolin | 1332-58-7 | 10 - 30 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 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.

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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 Aldehydes Carbon monoxide Carbon dioxide

Condition

During Combustion During Combustion During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

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. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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 |
|------------|------------|--------|----------------------------|----------------------------|
| Kaolin | 1332-58-7 | ACGIH | TWA(respirable fraction):2 | A4: Not class. as human |
| | | | mg/m3 | carcin |

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.

Gloves made from the following material(s) are recommended: Butyl Rubber

Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron – Butyl rubber Apron - polymer laminate

Respiratory protection

None required.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form: Liquid **Specific Physical Form:** Paste

Odor, Color, Grade: Off-white, very slight epoxy odor.

Odor threshold No Data Available Not Applicable **Melting point** No Data Available

Boiling Point $>=260 \, {}^{\circ}\text{C}$

Flash Point >=480 °F [Test Method: Closed Cup]

Not Applicable **Evaporation rate** Flammability (solid, gas) Not Applicable Not Applicable Flammable Limits(LEL) Not Applicable Flammable Limits(UEL) Vapor Pressure Not Applicable **Vapor Density** Not Applicable 1.33 g/ml **Density**

Specific Gravity 1.33 [*Ref Std:* WATER=1]

Solubility in Water

No Data Available Solubility- non-water Partition coefficient: n-octanol/ water No Data Available **Autoignition temperature** Not Applicable **Decomposition temperature** No Data Available

Viscosity 75,000 - 150,000 centipoise [@ 73.4 °F]

Percent volatile Negligible

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat 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:

No health effects are expected.

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 |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|-------------|-----------|---------------------------|
| Epoxy Resin | Rabbit | Mild irritant |
| Kaolin | Professio | No significant irritation |
| | nal | |
| | judgeme | |
| | nt | |

Serious Eye Damage/Irritation

| Name | Species | Value |
|-------------|-----------------------------------|---------------------------|
| Epoxy Resin | Rabbit | Moderate irritant |
| Kaolin | Professio nal judgeme nt | No significant irritation |

Skin Sensitization

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

Respiratory Sensitization

| Name | Species | Value |
|-------------|---------|--|
| Epoxy Resin | Human | Some positive data exist, but the data are not sufficient for classification |

Germ Cell Mutagenicity

| Naı | ne | 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 | Not carcinogenic |
| | | animal | |
| | | species | |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|-------------|-----------|----------------------------------|---------|------------------------|-----------------------------|
| Epoxy Resin | Ingestion | Not toxic to female reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Epoxy Resin | Ingestion | Not toxic to male reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Epoxy Resin | Dermal | Not toxic to development | Rabbit | NOAEL 300 mg/kg/day | during organogenesi s |
| Epoxy Resin | Ingestion | Not toxic to development | Rat | NOAEL 750 mg/kg/day | 2 generation |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

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

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|-------------|------------|--|--|---------|-----------------------------|-----------------------|
| Epoxy Resin | Dermal | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 1,000 mg/kg/day | 2 years |
| Epoxy Resin | Dermal | nervous system | All data are negative | 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 | All data are negative | 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 | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | |

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.

Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. 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. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. 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.

EPA Hazardous Waste Number (RCRA): Not regulated

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.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

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.

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: 0 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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Document Group: 11-0006-4 19.00 **Version Number: Issue Date:** 04/04/14 08/29/12 **Supercedes Date:**

SECTION 1: Identification

1.1. Product identifier

3MTM Scotch-WeldTM Epoxy Adhesive EC-3537-NA B/A Part A

1.2. Recommended use and restrictions on use

Recommended use

Part A of 2-part adhesive

1.3. Supplier's details

MANUFACTURER:

DIVISION: Aerospace and Commercial Transportation Division

3M Center, St. Paul, MN 55144-1000, USA **ADDRESS: 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 1.

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.

Immediately call a POISON CENTER or doctor/physician.

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

If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. IF exposed or concerned: Get medical advice/attention.

Disposal:

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

2.3. Hazards not otherwise classified

May cause chemical gastrointestinal burns.

51% of the mixture consists of ingredients of unknown acute oral toxicity.

51% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|-------------------------------------|------------|------------------------|
| Aliphatic Polymer Diamine | 68911-25-1 | 40 - 70 Trade Secret * |
| Kaolin | 1332-58-7 | 15 - 40 Trade Secret * |
| 4,7,10-Trioxatridecane-1,13-Diamine | 4246-51-9 | 5 - 10 Trade Secret * |
| Amorphous Silica | 67762-90-7 | 5 - 10 |

^{*}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 medical attention.

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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. Do not induce vomiting. Get immediate 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

Substance Carbon monoxide Carbon dioxide

Condition

During Combustion During Combustion

5.3. Special protective actions for fire-fighters

No unusual fire or explosion hazards are anticipated.

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. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

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workplace. 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 strong bases. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|------------------|------------|--------------|----------------------------|----------------------------|
| Kaolin | 1332-58-7 | Amer Conf of | TWA(respirable fraction):2 | |
| | | Gov. Indust. | mg/m3 | |
| | | Hyg. | | |
| Amorphous Silica | 67762-90-7 | Chemical | CEIL:5 mg/m3 | |
| | | Manufacturer | | |
| | | Rec Guid | | |

Amer Conf of Gov. Indust. Hyg.: American Conference of Governmental Industrial Hygienists

American Indust. Hygiene Assoc : American Industrial Hygiene Association

Chemical Manufacturer Rec Guid: Chemical Manufacturer's Recommended Guidelines

US Dept of Labor - 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.

Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - 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

General Physical Form: Liquid **Specific Physical Form:** Paste

Odor, Color, Grade: Gray, pungent odor. **Odor threshold** No Data Available pH Not Applicable **Melting point** No Data Available

Boiling Point $>=201 \, {}^{\circ}\text{F}$

Flash Point >=201 °F [Test Method: Closed Cup]

Evaporation rate Not Applicable Flammability (solid, gas) Not Applicable Not Applicable Flammable Limits(LEL) Not Applicable Flammable Limits(UEL) Not Applicable **Vapor Pressure**

Vapor Density Not Applicable

Density 1.29 g/ml

Specific Gravity 1.29 [*Ref Std:* WATER=1]

Nil Solubility in Water

Solubility- non-water No Data Available

Partition coefficient: n-octanol/ water No Data Available **Autoignition temperature** No Data Available **Decomposition temperature** No Data Available

40,000 - 80,000 centipoise [@ 73.4 °C] Viscosity

Percent volatile 0.0 % weight

SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat 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

Amines Strong acids Strong bases 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 Corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain; nausea; vomiting; and diarrhea; blood in the feces and/or vomitus may also be seen.

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 |
| Kaolin | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Kaolin | Ingestion | Human | LD50 > 15,000 mg/kg |
| 4,7,10-Trioxatridecane-1,13-Diamine | Dermal | Rabbit | LD50 2,500 mg/kg |
| 4,7,10-Trioxatridecane-1,13-Diamine | Ingestion | Rat | LD50 3,160 mg/kg |
| Amorphous Silica | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Amorphous Silica | Inhalation- | Rat | LC50 > 0.691 mg/l |

| | Dust/Mist (4 hours) | | |
|------------------|------------------------|-----|--------------------|
| Amorphous Silica | Ingestion | Rat | LD50 > 5,110 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|-------------------------------------|---------|---------------------------|
| Aliphatic Polymer Diamine | Rabbit | Irritant |
| Kaolin | | No significant irritation |
| 4,7,10-Trioxatridecane-1,13-Diamine | Rabbit | Corrosive |
| Amorphous Silica | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Serious Lye Dainage, Illianion | G | X7.1 |
|-------------------------------------|---------|---------------------------|
| Name | Species | Value |
| Aliphatic Polymer Diamine | similar | Corrosive |
| | health | |
| | hazards | |
| Kaolin | | No significant irritation |
| 4,7,10-Trioxatridecane-1,13-Diamine | similar | Corrosive |
| | health | |
| | hazards | |
| Amorphous Silica | Rabbit | No significant irritation |

Skin Sensitization

| Name | Species | Value |
|---------------------------|---------|-----------------|
| Aliphatic Polymer Diamine | Guinea | Sensitizing |
| | pig | |
| Amorphous Silica | Human | Not sensitizing |
| | and | |
| | animal | |

Respiratory Sensitization

| Name | Species | Value |
|------|---------|-------|
| | | |

Germ Cell Mutagenicity

| Name | Route | Value |
|------------------|----------|---------------|
| Amorphous Silica | In Vitro | Not mutagenic |

Carcinogenicity

| our emogenment, | | | |
|------------------|------------|----------|--|
| Name | Route | Species | Value |
| Kaolin | Inhalation | Multiple | Not carcinogenic |
| | | animal | |
| | | species | |
| Amorphous Silica | Not | Mouse | Some positive data exist, but the data are not |
| | Specified | | sufficient for classification |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|------------------|-----------|----------------------------------|---------|-----------------------------|-----------------------------|
| Amorphous Silica | Ingestion | Not toxic to female reproduction | Rat | NOAEL 509 mg/kg/day | 1 generation |
| Amorphous Silica | Ingestion | Not toxic to male reproduction | Rat | NOAEL 497 mg/kg/day | 1 generation |
| Amorphous Silica | Ingestion | Not toxic to development | Rat | NOAEL 1,350 mg/kg/day | during organogenesi s |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

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| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|------------|------------------------|-----------------------------|---------|---------------------|----------------------|
| 4,7,10-Trioxatridecane- 1,13-Diamine | Inhalation | respiratory irritation | data are not sufficient for | | NOAEL Not available | |
| | | | classification | | | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|------------------|------------|-----------------------------------|--|---------|------------------------|-----------------------|
| Kaolin | Inhalation | pneumoconiosis | Causes damage to organs through prolonged or repeated exposure | Human | NOAEL NA | occupational exposure |
| Kaolin | Inhalation | pulmonary fibrosis | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL Not available | |
| Amorphous Silica | Inhalation | respiratory system silicosis | All data are negative | Human | NOAEL Not available | occupational exposure |

Aspiration Hazard

| Name | Value |
|------|-------|
| | |

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. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. 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.

EPA Hazardous Waste Number (RCRA): Not regulated

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.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

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.

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: 0 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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