



Safety Data Sheet

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|------------------------|-----------|-------------------------|----------|
| Document Group: | 05-6784-2 | Version Number: | 13.01 |
| Issue Date: | 11/03/22 | Supersedes Date: | 06/15/20 |

Product identifier

3M(TM) Scotch-Weld(TM) Epoxy Adhesive DP105 Clear

ID Number(s):

62-3287-1430-8, 62-3287-1431-6, 62-3287-1435-7, 62-3287-1436-5, 62-3287-3530-3, 62-3287-3830-7

7010367387, 7100076770, 7100076786, 7010309884, 7010412196, 7100148733

Recommended use

Two-part adhesive system., Structural 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:

05-6783-4, 05-6781-8

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| | | | |
|------------------------|-----------|-------------------------|----------|
| Document Group: | 05-6781-8 | Version Number: | 16.02 |
| Issue Date: | 06/30/22 | Supersedes Date: | 06/15/20 |

SECTION 1: Identification

1.1. Product identifier

3M™ Scotch-Weld™ Epoxy Adhesive DP105 Clear, Part B

Product Identification Numbers

| ID Number | UPC | ID Number | UPC |
|----------------|-----|-----------|-----|
| LA-D100-2964-4 | | | |

1.2. Recommended use and restrictions on use

Recommended use

Part B of 2-Component Epoxy Adhesive, 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 2A.

Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms

**Hazard Statements**

Causes serious eye 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 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 2 | 30583-72-3 | 70 - 80 Trade Secret * |
| Epoxy Resin 1 | 25068-38-6 | 20 - 24 Trade Secret * |
| Organosilane | 2530-83-8 | 0.5 - 1.5 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 medical attention.

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Allergic skin reaction (redness, swelling, blistering, and itching).

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

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 |
| Hydrogen Chloride | During Combustion |
| Ketones | During Combustion |
| Toxic Vapor, Gas, Particulate | 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

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

No occupational exposure limit values exist for any of the components listed in Section 3 of this SDS.

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 state

Liquid

Color

Colorless

Specific Physical Form:

Viscous Liquid

Odor

Slight Epoxy

Odor threshold

No Data Available

pH

Not Applicable

Melting point

Not Applicable

| | |
|--|--|
| Boiling Point | >=240 °F |
| Flash Point | >=240 °F [<i>Test Method</i> :Pensky-Martens Closed Cup] |
| Evaporation rate | <i>No Data Available</i> |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | <i>No Data Available</i> |
| Flammable Limits(UEL) | <i>No Data Available</i> |
| Vapor Pressure | <=27 psia [<i>@</i> 131 °F] |
| Vapor Density | <i>No Data Available</i> |
| Density | 1.11 g/ml |
| Specific Gravity | 1.11 [<i>Ref Std</i> :WATER=1] |
| Solubility in Water | Nil |
| Solubility- non-water | <i>No Data Available</i> |
| 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 | 1,000 - 5,000 centipoise |
| Hazardous Air Pollutants | 0 % weight [<i>Test Method</i> :Calculated] |
| Molecular weight | <i>No Data Available</i> |
| VOC Less H2O & Exempt Solvents | < 20 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 | 1.5 % [<i>Test Method</i> :calculated per CARB title 2] [<i>Details</i> :when used as intended with Part A] |
| VOC Less H2O & Exempt Solvents | 11 g/l [<i>Test Method</i> :calculated SCAQMD rule 443.1] [<i>Details</i> :as supplied] |

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 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:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

May be harmful if swallowed.

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 | Dermal | | No data available; calculated ATE >5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE >2,000 - =5,000 mg/kg |
| Epoxy Resin 2 | Dermal | Rat | LD50 > 2,000 mg/kg |
| Epoxy Resin 2 | Ingestion | Rat | LD50 > 2,000 mg/kg |
| Epoxy Resin 1 | Dermal | Rat | LD50 > 1,600 mg/kg |
| Epoxy Resin 1 | Ingestion | Rat | LD50 > 1,000 mg/kg |
| Organosilane | Dermal | Rabbit | LD50 4,000 mg/kg |
| Organosilane | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 5.3 mg/l |
| Organosilane | Ingestion | Rat | LD50 7,010 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|---------------|---------|--------------------|
| Epoxy Resin 2 | Rabbit | Minimal irritation |
| Epoxy Resin 1 | Rabbit | Mild irritant |
| Organosilane | Rabbit | Mild irritant |

Serious Eye Damage/Irritation

| Name | Species | Value |
|---------------|---------|-------------------|
| Epoxy Resin 2 | Rabbit | Mild irritant |
| Epoxy Resin 1 | Rabbit | Moderate irritant |

| | | |
|--------------|--------|-----------|
| Organosilane | Rabbit | Corrosive |
|--------------|--------|-----------|

Skin Sensitization

| Name | Species | Value |
|---------------|------------------|----------------|
| Epoxy Resin 2 | Mouse | Sensitizing |
| Epoxy Resin 1 | Human and animal | Sensitizing |
| Organosilane | Guinea pig | Not classified |

Respiratory Sensitization

| Name | Species | Value |
|---------------|---------|----------------|
| Epoxy Resin 1 | Human | Not classified |

Germ Cell Mutagenicity

| Name | Route | Value |
|---------------|----------|--|
| Epoxy Resin 2 | In vivo | Not mutagenic |
| Epoxy Resin 2 | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Epoxy Resin 1 | In vivo | Not mutagenic |
| Epoxy Resin 1 | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| Organosilane | In vivo | Not mutagenic |
| Organosilane | In Vitro | Some positive data exist, but the data are not sufficient for classification |

Carcinogenicity

| Name | Route | Species | Value |
|---------------|--------|---------|--|
| Epoxy Resin 1 | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Organosilane | Dermal | Mouse | Not carcinogenic |

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|---------------|-----------|--|---------|-----------------------|----------------------|
| Epoxy Resin 2 | Ingestion | Not classified for development | Rat | NOAEL 300 mg/kg/day | during gestation |
| Epoxy Resin 1 | Ingestion | Not classified for female reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Epoxy Resin 1 | Ingestion | Not classified for male reproduction | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Epoxy Resin 1 | Dermal | Not classified for development | Rabbit | NOAEL 300 mg/kg/day | during organogenesis |
| Epoxy Resin 1 | Ingestion | Not classified for development | Rat | NOAEL 750 mg/kg/day | 2 generation |
| Organosilane | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | 1 generation |
| Organosilane | Ingestion | Not classified for male reproduction | Rat | NOAEL 1,000 mg/kg/day | 1 generation |
| Organosilane | Ingestion | Not classified for development | Rat | NOAEL 3,000 mg/kg/day | during organogenesis |

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 2 | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 100 mg/kg/day | 90 days |
| Epoxy Resin 2 | Ingestion | heart endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system liver immune system nervous system vascular system skin muscles eyes respiratory system | Not classified | Rat | NOAEL 600 mg/kg/day | 90 days |
| Epoxy Resin 1 | Dermal | liver | Not classified | Rat | NOAEL 1,000 mg/kg/day | 2 years |
| Epoxy Resin 1 | Dermal | nervous system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 13 weeks |
| Epoxy Resin 1 | Ingestion | auditory system heart endocrine system hematopoietic system liver eyes kidney and/or bladder | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |
| Organosilane | Ingestion | heart endocrine system bone, teeth, nails, and/or hair hematopoietic system liver immune system nervous system kidney and/or bladder respiratory system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 28 days |

Aspiration Hazard

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

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

SECTION 12: Ecological information

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: 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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SECTION 1: Identification

1.1. Product identifier

3M™ Scotch-Weld™ Epoxy Adhesive DP105 Clear, Part A

1.2. Recommended use and restrictions on use

Recommended use

Part A of 2-Component Epoxy Adhesive, 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

Acute Toxicity (oral): Category 4.

Skin Sensitizer: Category 1A.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms



Hazard Statements

Harmful if swallowed.
May cause an allergic skin reaction.

Precautionary Statements

Prevention:

Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:

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.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
Rinse mouth.

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.

10% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|------------------------------------|------------|-------------------------|
| Mercaptan Polymer | 72244-98-5 | 85 - 100 Trade Secret * |
| Triethylenetetramine, propoxylated | 26950-63-0 | 1 - 10 Trade Secret * |
| bis(dimethylaminoethyl) ether | 3033-62-3 | < 5 Trade Secret * |
| 1,8-Diazabicyclo[5.4.0]undec-7-ene | 6674-22-2 | < 3 Trade Secret * |
| Triethylenetetramine | 112-24-3 | < 3 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

Allergic skin reaction (redness, swelling, blistering, and itching).

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

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

Hazardous Decomposition or By-Products

| <u>Substance</u> | <u>Condition</u> |
|-------------------------------|-------------------|
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |
| Oxides of Sulfur | During Combustion |
| Toxic Vapor, Gas, Particulate | During Combustion |

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. 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

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.

7.2. Conditions for safe storage including any incompatibilities

No special storage requirements.

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 |
| bis(dimethylaminoethyl) ether | 3033-62-3 | ACGIH | TWA:0.05 ppm;STEL:0.15 ppm | Danger of cutaneous absorption |

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**

None required.

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

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**Appearance**

Physical state
Color

Liquid
Colorless

Odor

Mercaptan

Odor threshold

No Data Available

pH

Not Applicable

Melting point

Not Applicable

Boiling Point

≥ 200 °F

Flash Point

≥ 200 °F [*Test Method: Closed Cup*]

Evaporation rate

No Data Available

Flammability (solid, gas)

Not Applicable

Flammable Limits(LEL)

No Data Available

Flammable Limits(UEL)

No Data Available

Vapor Pressure

≤ 0.1 mmHg

Vapor Density

No Data Available

Density

1.15 g/ml

Specific Gravity

1.15 [*Ref Std: WATER=1*]

Solubility in Water

Nil

Solubility- non-water

No Data Available

Partition coefficient: n-octanol/ water

No Data Available

Autoignition temperature

No Data Available

Decomposition temperature

No Data Available

Viscosity

8,000 - 16,000 centipoise [*@ 73 °F*]

Hazardous Air Pollutants

0 % weight [*Test Method: Calculated*]

Molecular weight

No Data Available

VOC Less H₂O & Exempt Solvents

< 20 g/l [*Test Method: calculated SCAQMD rule 443.1*]
[*Details: when used as intended with Part B*]

VOC Less H₂O & Exempt Solvents

1.5 % [*Test Method: calculated SCAQMD rule 443.1*]
[*Details: when used as intended with Part B*]

VOC Less H₂O & Exempt Solvents

≤ 35 g/l [*Test Method: calculated SCAQMD rule 443.1*]
[*Details: as supplied*]

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

None known.

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:

May be harmful in contact with skin.

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:

Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion:

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

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 >2,000 - =5,000 mg/kg |
| Overall product | Inhalation-Vapor(4 hr) | | No data available; calculated ATE >50 mg/l |
| Overall product | Ingestion | | No data available; calculated ATE >300 - =2,000 mg/kg |
| Mercaptan Polymer | Dermal | Rabbit | LD50 > 10,200 mg/kg |
| Mercaptan Polymer | Ingestion | Rat | LD50 2,600 mg/kg |
| Triethylenetetramine, propoxylated | Dermal | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Triethylenetetramine, propoxylated | Ingestion | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| bis(dimethylaminoethyl) ether | Dermal | Rabbit | LD50 311 mg/kg |
| bis(dimethylaminoethyl) ether | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 3.4 mg/l |

| | | | |
|------------------------------------|----------------------------|--------|-------------------------|
| bis(dimethylaminoethyl) ether | Inhalation-Vapor (4 hours) | Rat | LC50 > 2.2 mg/l |
| bis(dimethylaminoethyl) ether | Ingestion | Rat | LD50 571 mg/kg |
| Triethylenetetramine | Dermal | Rabbit | LD50 550 mg/kg |
| Triethylenetetramine | Ingestion | Rat | LD50 2,500 mg/kg |
| 1,8-Diazabicyclo[5.4.0]undec-7-ene | Dermal | Rabbit | LD50 1,233 mg/kg |
| 1,8-Diazabicyclo[5.4.0]undec-7-ene | Ingestion | Rat | LD50 > 300, < 681 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|------------------------------------|---------------|---------------------------|
| Overall product | Rabbit | Mild irritant |
| Mercaptan Polymer | Rabbit | No significant irritation |
| bis(dimethylaminoethyl) ether | Rabbit | Corrosive |
| Triethylenetetramine | Rabbit | Corrosive |
| 1,8-Diazabicyclo[5.4.0]undec-7-ene | In vitro data | Corrosive |

Serious Eye Damage/Irritation

| Name | Species | Value |
|------------------------------------|------------------------|-----------------|
| Overall product | Rabbit | Mild irritant |
| Mercaptan Polymer | Rabbit | Mild irritant |
| Triethylenetetramine, propoxylated | Rabbit | Severe irritant |
| bis(dimethylaminoethyl) ether | Rabbit | Corrosive |
| Triethylenetetramine | Rabbit | Corrosive |
| 1,8-Diazabicyclo[5.4.0]undec-7-ene | similar health hazards | Corrosive |

Skin Sensitization

| Name | Species | Value |
|------------------------------------|-------------------------|----------------|
| Mercaptan Polymer | Mouse | Sensitizing |
| Triethylenetetramine, propoxylated | Mouse | Sensitizing |
| bis(dimethylaminoethyl) ether | Multiple animal species | Not classified |
| Triethylenetetramine | Guinea pig | Sensitizing |

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 |
|------------------------------------|----------|--|
| Mercaptan Polymer | In Vitro | Not mutagenic |
| Triethylenetetramine, propoxylated | In Vitro | Some positive data exist, but the data are not sufficient for classification |
| bis(dimethylaminoethyl) ether | In Vitro | Not mutagenic |
| bis(dimethylaminoethyl) ether | In vivo | Not mutagenic |
| 1,8-Diazabicyclo[5.4.0]undec-7-ene | In Vitro | Not mutagenic |

Carcinogenicity

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

Reproductive Toxicity

Reproductive and/or Developmental Effects

| Name | Route | Value | Species | Test Result | Exposure Duration |
|------------------------------------|-----------|--|---------|---------------------|----------------------------|
| Triethylenetetramine, propoxylated | Ingestion | Not classified for female reproduction | Rat | NOAEL 750 mg/kg/day | prematuring into lactation |
| Triethylenetetramine, propoxylated | Ingestion | Not classified for male reproduction | Rat | NOAEL 750 mg/kg/day | 43 days |
| Triethylenetetramine, propoxylated | Ingestion | Not classified for development | Rat | NOAEL 750 mg/kg/day | prematuring into lactation |
| bis(dimethylaminoethyl) ether | Dermal | Not classified for development | Rabbit | NOAEL 12 mg/kg/day | during organogenesis |
| 1,8-Diazabicyclo[5.4.0]undec-7-ene | Ingestion | Not classified for female reproduction | Rat | NOAEL 150 mg/kg/day | prematuring into lactation |
| 1,8-Diazabicyclo[5.4.0]undec-7-ene | Ingestion | Not classified for male reproduction | Rat | NOAEL 150 mg/kg/day | 29 days |
| 1,8-Diazabicyclo[5.4.0]undec-7-ene | Ingestion | Not classified for development | Rat | NOAEL 150 mg/kg/day | during gestation |

Target Organ(s)

Specific Target Organ Toxicity - single exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|------------------------------------|------------|------------------------|--|------------------------|---------------------|-------------------|
| Triethylenetetramine, propoxylated | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL not available | |
| bis(dimethylaminoethyl) ether | Inhalation | respiratory irritation | May cause respiratory irritation | similar health hazards | NOAEL Not available | |
| 1,8-Diazabicyclo[5.4.0]undec-7-ene | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | similar health hazards | NOAEL Not available | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|------------------------------------|------------|---|--|---------|-----------------------|-------------------|
| Mercaptan Polymer | Ingestion | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 75 mg/kg/day | 90 days |
| Mercaptan Polymer | Ingestion | liver | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 250 mg/kg/day | 90 days |
| Mercaptan Polymer | Ingestion | endocrine system heart skin immune system nervous system eyes kidney and/or bladder respiratory system vascular system | Not classified | Rat | NOAEL 1,000 mg/kg/day | 90 days |
| Triethylenetetramine, propoxylated | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 300 mg/kg/day | 43 days |
| bis(dimethylaminoethyl) ether | Dermal | skin heart endocrine system gastrointestinal tract hematopoietic system liver immune system muscles nervous system kidney and/or bladder respiratory system vascular system | Not classified | Rabbit | NOAEL 8 mg/kg/day | 90 days |
| bis(dimethylaminoethyl) ether | Inhalation | skin endocrine system eyes | Not classified | Rat | NOAEL 0.038 mg/l | 14 weeks |

| | | | | | | |
|------------------------------------|-----------|--|----------------|-----|---------------------|---------|
| | | respiratory system heart hematopoietic system liver immune system nervous system kidney and/or bladder | | | | |
| bis(dimethylaminoethyl) ether | Ingestion | gastrointestinal tract liver kidney and/or bladder respiratory system | Not classified | Rat | NOAEL 150 mg/kg/day | 7 days |
| bis(dimethylaminoethyl) ether | Ingestion | heart endocrine system hematopoietic system nervous system | Not classified | Rat | NOAEL 220 mg/kg/day | 7 days |
| 1,8-Diazabicyclo[5.4.0]undec-7-ene | Ingestion | heart skin endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system liver immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system | Not classified | Rat | NOAEL 120 mg/kg/day | 90 days |

Aspiration Hazard

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

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

SECTION 12: Ecological information**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.

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.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Not applicable

Health Hazards

Acute toxicity

Respiratory or Skin Sensitization

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: 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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