



## Safety Data Sheet

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### Product identifier

3M™ Scotch-Weld™ Epoxy Adhesive DP190 Translucent

### ID Number(s):

62-3286-1430-0, 62-3286-1435-9, 62-3286-3530-5, 62-3286-3830-9

### Recommended use

Structural adhesive

### Supplier's details

|                      |                                         |
|----------------------|-----------------------------------------|
| <b>MANUFACTURER:</b> | 3M                                      |
| <b>DIVISION:</b>     | Industrial Adhesives and Tapes Division |
| <b>ADDRESS:</b>      | 3M Center, St. Paul, MN 55144-1000, USA |
| <b>Telephone:</b>    | 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:**

05-6837-8, 05-6839-4

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### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Scotch-Weld™ Epoxy Adhesive DP190 Translucent, Part B

#### 1.2. Recommended use and restrictions on use

##### Recommended use

Structural adhesive

#### 1.3. Supplier's details

|                      |                                         |
|----------------------|-----------------------------------------|
| <b>MANUFACTURER:</b> | 3M                                      |
| <b>DIVISION:</b>     | Industrial Adhesives and Tapes Division |
| <b>ADDRESS:</b>      | 3M Center, St. Paul, MN 55144-1000, USA |
| <b>Telephone:</b>    | 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.

### 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 | 60 - 70 Trade Secret * |
| Epoxy Resin | 30583-72-3 | 30 - 40 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.

#### 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 |
| Carbon monoxide               | During Combustion |
| Carbon dioxide                | During Combustion |
| Toxic Vapor, Gas, Particulate | 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. 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.

### 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

Store away from acids.

### 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

No engineering controls required.

### 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

None required.

## SECTION 9: Physical and chemical properties

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

|                                                |                                                                                |
|------------------------------------------------|--------------------------------------------------------------------------------|
| <b>General Physical Form:</b>                  | Liquid                                                                         |
| <b>Specific Physical Form:</b>                 | Viscous Liquid                                                                 |
| <b>Odor, Color, Grade:</b>                     | Clear, slight epoxy odor                                                       |
| <b>Odor threshold</b>                          | <i>No Data Available</i>                                                       |
| <b>pH</b>                                      | <i>Not Applicable</i>                                                          |
| <b>Melting point</b>                           | <i>Not Applicable</i>                                                          |
| <b>Boiling Point</b>                           | >=210 °F                                                                       |
| <b>Flash Point</b>                             | >=200 °F [ <i>Test Method: Pensky-Martens Closed Cup</i> ]                     |
| <b>Evaporation rate</b>                        | Negligible                                                                     |
| <b>Flammability (solid, gas)</b>               | Not Applicable                                                                 |
| <b>Flammable Limits(LEL)</b>                   | <i>No Data Available</i>                                                       |
| <b>Flammable Limits(UEL)</b>                   | <i>No Data Available</i>                                                       |
| <b>Vapor Pressure</b>                          | Negligible                                                                     |
| <b>Vapor Density</b>                           | <i>No Data Available</i>                                                       |
| <b>Density</b>                                 | 1.17 g/ml [ <i>@ 20 °C</i> ]                                                   |
| <b>Specific Gravity</b>                        | 1.17 [ <i>Ref Std: WATER=1</i> ]                                               |
| <b>Solubility in Water</b>                     | Nil                                                                            |
| <b>Solubility- non-water</b>                   | <i>No Data Available</i>                                                       |
| <b>Partition coefficient: n-octanol/ water</b> | <i>No Data Available</i>                                                       |
| <b>Autoignition temperature</b>                | <i>No Data Available</i>                                                       |
| <b>Decomposition temperature</b>               | <i>No Data Available</i>                                                       |
| <b>Viscosity</b>                               | 2,000 - 8,000 centipoise [ <i>@ 20 °C</i> ] [ <i>Test Method: Brookfield</i> ] |

**Hazardous Air Pollutants****VOC Less H2O & Exempt Solvents**0 % weight [*Test Method*: Calculated]< 5 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**< 0.5 % [*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 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

**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                              |

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

| Name        | Species | Value         |
|-------------|---------|---------------|
| Epoxy Resin | Rabbit  | Mild irritant |

**Serious Eye Damage/Irritation**

| Name        | Species | Value             |
|-------------|---------|-------------------|
| Epoxy Resin | Rabbit  | Moderate irritant |

**Skin Sensitization**

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

**Respiratory Sensitization**

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

**Germ Cell Mutagenicity**

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

**Carcinogenicity**

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

**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 organogenesis |
| 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           |

**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. 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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### SECTION 1: Identification

#### 1.1. Product identifier

3M(TM) Scotch-Weld(TM) Epoxy Adhesive DP190 Translucent, Part A

#### 1.2. Recommended use and restrictions on use

##### Recommended use

Structural adhesive

#### 1.3. Supplier's details

|                      |                                         |
|----------------------|-----------------------------------------|
| <b>MANUFACTURER:</b> | 3M                                      |
| <b>DIVISION:</b>     | Industrial Adhesives and Tapes Division |
| <b>ADDRESS:</b>      | 3M Center, St. Paul, MN 55144-1000, USA |
| <b>Telephone:</b>    | 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.

Acute Toxicity (dermal): Category 4.

Skin Sensitizer: Category 1.

Reproductive Toxicity: Category 1B.

#### 2.2. Label elements

##### Signal word

Danger

##### Symbols

Exclamation mark | Health Hazard |

##### Pictograms



**Hazard Statements**

Harmful if swallowed.  
 Harmful in contact with skin.  
 May cause an allergic skin reaction.  
 May damage fertility or the unborn child.

**Precautionary Statements****Prevention:**

Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 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.  
 Take off contaminated clothing and wash it before reuse.  
 Rinse mouth.  
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 IF exposed or concerned: Get medical advice/attention.

**Storage:**

Store locked up.

**Disposal:**

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

**2.3. Hazards not otherwise classified**

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

90% of the mixture consists of ingredients of unknown acute oral toxicity.  
 90% 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 | 70 - 90 Trade Secret * |
| 4,7,10-Trioxatridecane-1,13-Diamine | 4246-51-9  | 10 - 30 Trade Secret * |
| Calcium Salt                        | 55120-75-7 | 1 - 5 Trade Secret *   |
| Toluene                             | 108-88-3   | < 0.8 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.

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

Not applicable

|                                          |
|------------------------------------------|
| <b>SECTION 5: Fire-fighting measures</b> |
|------------------------------------------|

**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>  |
|-------------------------------|-------------------|
| Carbon monoxide               | During Combustion |
| Carbon dioxide                | During Combustion |
| Oxides of Nitrogen            | During Combustion |
| Oxides of Sulfur              | During Combustion |
| Toxic Vapor, Gas, Particulate | During Combustion |

**5.3. Special protective actions for fire-fighters**

No special protective actions for fire-fighters are anticipated.

|                                               |
|-----------------------------------------------|
| <b>SECTION 6: Accidental release measures</b> |
|-----------------------------------------------|

**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. 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.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Do not breathe 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. Wash contaminated clothing before reuse. Use personal protective equipment (gloves, respirators, etc.) as required.

### 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            |
|--------------|------------|-------------------------|--------------------------|--------------------------------|
| Toluene      | 108-88-3   | OSHA                    | TWA:200 ppm;CEIL:300 ppm |                                |
| Toluene      | 108-88-3   | ACGIH                   | TWA:20 ppm               | A4: Not class. as human carcin |
| Toluene      | 108-88-3   | CMRG                    | STEL:75 ppm              | Skin Notation                  |
| Calcium Salt | 55120-75-7 | Manufacturer determined | TWA:0.1 mg/m3            | Skin Notation                  |

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

## 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

|                                                |                                                                                                                  |
|------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>General Physical Form:</b>                  | Liquid                                                                                                           |
| <b>Specific Physical Form:</b>                 | Viscous Liquid                                                                                                   |
| <b>Odor, Color, Grade:</b>                     | Light amber, slight amine odor                                                                                   |
| <b>Odor threshold</b>                          | <i>No Data Available</i>                                                                                         |
| <b>Boiling Point</b>                           | >=210 °F                                                                                                         |
| <b>Flash Point</b>                             | >=200 °F [ <i>Test Method:</i> Closed Cup]                                                                       |
| <b>Evaporation rate</b>                        | <i>No Data Available</i>                                                                                         |
| <b>Flammability (solid, gas)</b>               | Not Applicable                                                                                                   |
| <b>Flammable Limits(LEL)</b>                   | <i>No Data Available</i>                                                                                         |
| <b>Flammable Limits(UEL)</b>                   | <i>No Data Available</i>                                                                                         |
| <b>Vapor Pressure</b>                          | <=27 psia [ <i>@ 131 °F</i> ]                                                                                    |
| <b>Density</b>                                 | 1.03 g/ml [ <i>@ 20 °C</i> ]                                                                                     |
| <b>Specific Gravity</b>                        | 1.03 [ <i>Ref Std: WATER=1</i> ]                                                                                 |
| <b>Solubility in Water</b>                     | Nil                                                                                                              |
| <b>Solubility- non-water</b>                   | <i>No Data Available</i>                                                                                         |
| <b>Partition coefficient: n-octanol/ water</b> | <i>No Data Available</i>                                                                                         |
| <b>Autoignition temperature</b>                | <i>No Data Available</i>                                                                                         |
| <b>Decomposition temperature</b>               | <i>No Data Available</i>                                                                                         |
| <b>Viscosity</b>                               | 7,000 - 15,000 centipoise [ <i>@ 20 °C</i> ] [ <i>Test Method:</i> Brookfield]                                   |
| <b>Hazardous Air Pollutants</b>                | < 1 % weight [ <i>Test Method:</i> Calculated]                                                                   |
| <b>VOC Less H2O &amp; Exempt Solvents</b>      | < 5 g/l [ <i>Test Method:</i> calculated SCAQMD rule 443.1] [ <i>Details:</i> when used as intended with Part B] |
| <b>VOC Less H2O &amp; Exempt Solvents</b>      | < 0.5 % [ <i>Test Method:</i> calculated SCAQMD rule 443.1] [ <i>Details:</i> when used as intended with Part B] |
| <b>VOC Less H2O &amp; Exempt Solvents</b>      | < 10 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**

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.

May cause additional health effects (see below).

**Skin Contact:**

Harmful in contact with skin. Contact with the skin during product use is not expected to result in significant irritation. 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.

May cause additional health effects (see below).

**Additional Health Effects:****Reproductive/Developmental Toxicity:**

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

**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 1,000 - 2,000 |

|                                     |                            |        | mg/kg                                               |
|-------------------------------------|----------------------------|--------|-----------------------------------------------------|
| Overall product                     | Ingestion                  |        | No data available; calculated ATE 300 - 2,000 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                                    |
| Calcium Salt                        | Ingestion                  | Rat    | LD50 > 2,000 mg/kg                                  |
| Toluene                             | Dermal                     | Rat    | LD50 12,000 mg/kg                                   |
| Toluene                             | Inhalation-Vapor (4 hours) | Rat    | LC50 30 mg/l                                        |
| Toluene                             | Ingestion                  | Rat    | LD50 5,550 mg/kg                                    |

ATE = acute toxicity estimate

### Skin Corrosion/Irritation

| Name                                | Species       | Value                     |
|-------------------------------------|---------------|---------------------------|
| Overall product                     | In vitro data | No significant irritation |
| Aliphatic Polymer Diamine           | Rabbit        | Irritant                  |
| 4,7,10-Trioxatridecane-1,13-Diamine | Rabbit        | Corrosive                 |
| Calcium Salt                        | Rabbit        | Irritant                  |
| Toluene                             | Rabbit        | Irritant                  |

### Serious Eye Damage/Irritation

| Name                                | Species                | Value                     |
|-------------------------------------|------------------------|---------------------------|
| Overall product                     | In vitro data          | No significant irritation |
| Aliphatic Polymer Diamine           | similar health hazards | Corrosive                 |
| 4,7,10-Trioxatridecane-1,13-Diamine | similar health hazards | Corrosive                 |
| Calcium Salt                        | Rabbit                 | Corrosive                 |
| Toluene                             | Rabbit                 | Moderate irritant         |

### Skin Sensitization

| Name                      | Species    | Value           |
|---------------------------|------------|-----------------|
| Overall product           |            | Sensitizing     |
| Aliphatic Polymer Diamine | Guinea pig | Sensitizing     |
| Toluene                   | Guinea pig | Not 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         |
|---------|----------|---------------|
| Toluene | In Vitro | Not mutagenic |
| Toluene | In vivo  | Not mutagenic |

### Carcinogenicity

| Name    | Route      | Species | Value                                                                        |
|---------|------------|---------|------------------------------------------------------------------------------|
| Toluene | Dermal     | Mouse   | Some positive data exist, but the data are not sufficient for classification |
| Toluene | Ingestion  | Rat     | Some positive data exist, but the data are not sufficient for classification |
| Toluene | Inhalation | Mouse   | Some positive data exist, but the data are not sufficient for classification |

### Reproductive Toxicity

**Reproductive and/or Developmental Effects**

| Name    | Route      | Value                                                                                            | Species | Test Result         | Exposure Duration      |
|---------|------------|--------------------------------------------------------------------------------------------------|---------|---------------------|------------------------|
| Toluene | Inhalation | Some positive female reproductive data exist, but the data are not sufficient for classification | Human   | NOAEL Not available | occupational exposure  |
| Toluene | Inhalation | Some positive male reproductive data exist, but the data are not sufficient for classification   | Rat     | NOAEL 2.3 mg/l      | 1 generation           |
| Toluene | Ingestion  | Toxic to development                                                                             | Rat     | LOAEL 520 mg/kg/day | during gestation       |
| Toluene | Inhalation | Toxic to development                                                                             | Human   | NOAEL Not available | poisoning and/or abuse |

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

| Name                                | Route      | Target Organ(s)                   | Value                                                                        | Species | Test Result         | Exposure Duration      |
|-------------------------------------|------------|-----------------------------------|------------------------------------------------------------------------------|---------|---------------------|------------------------|
| 4,7,10-Trioxatridecane-1,13-Diamine | Inhalation | respiratory irritation            | Some positive data exist, but the data are not sufficient for classification |         | NOAEL Not available |                        |
| Toluene                             | Inhalation | central nervous system depression | May cause drowsiness or dizziness                                            | Human   | NOAEL Not available |                        |
| Toluene                             | Inhalation | respiratory irritation            | Some positive data exist, but the data are not sufficient for classification | Human   | NOAEL Not available |                        |
| Toluene                             | Inhalation | immune system                     | Some positive data exist, but the data are not sufficient for classification | Mouse   | NOAEL 0.004 mg/l    | 3 hours                |
| Toluene                             | Ingestion  | central nervous system depression | May cause drowsiness or dizziness                                            | Human   | NOAEL Not available | poisoning and/or abuse |

**Specific Target Organ Toxicity - repeated exposure**

| Name    | Route      | Target Organ(s)                                            | Value                                                                        | Species  | Test Result           | Exposure Duration      |
|---------|------------|------------------------------------------------------------|------------------------------------------------------------------------------|----------|-----------------------|------------------------|
| Toluene | Inhalation | auditory system   nervous system   eyes   olfactory system | Causes damage to organs through prolonged or repeated exposure               | Human    | NOAEL Not available   | poisoning and/or abuse |
| Toluene | Inhalation | respiratory system                                         | Some positive data exist, but the data are not sufficient for classification | Rat      | LOAEL 2.3 mg/l        | 15 months              |
| Toluene | Inhalation | heart   liver   kidney and/or bladder                      | Some positive data exist, but the data are not sufficient for classification | Rat      | NOAEL 11.3 mg/l       | 15 weeks               |
| Toluene | Inhalation | endocrine system                                           | Some positive data exist, but the data are not sufficient for classification | Rat      | NOAEL 1.1 mg/l        | 4 weeks                |
| Toluene | Inhalation | immune system                                              | Some positive data exist, but the data are not sufficient for classification | Mouse    | NOAEL Not available   | 20 days                |
| Toluene | Inhalation | bone, teeth, nails, and/or hair                            | Some positive data exist, but the data are not sufficient for classification | Mouse    | NOAEL 1.1 mg/l        | 8 weeks                |
| Toluene | Inhalation | hematopoietic system   vascular system                     | Some positive data exist, but the data are not sufficient for classification | Human    | NOAEL Not available   | occupational exposure  |
| Toluene | Ingestion  | nervous system                                             | Some positive data exist, but the data are not sufficient for classification | Rat      | NOAEL 625 mg/kg/day   | 13 weeks               |
| Toluene | Ingestion  | heart                                                      | Some positive data exist, but the data are not sufficient for classification | Rat      | NOAEL 2,500 mg/kg/day | 13 weeks               |
| Toluene | Ingestion  | liver   kidney and/or                                      | Some positive data exist, but the                                            | Multiple | NOAEL                 | 13 weeks               |

|         |           |                      |                                                                              |                |                     |         |
|---------|-----------|----------------------|------------------------------------------------------------------------------|----------------|---------------------|---------|
|         |           | bladder              | data are not sufficient for classification                                   | animal species | 2,500 mg/kg/day     |         |
| Toluene | Ingestion | hematopoietic system | Some positive data exist, but the data are not sufficient for classification | Mouse          | NOAEL 600 mg/kg/day | 14 days |
| Toluene | Ingestion | endocrine system     | Some positive data exist, but the data are not sufficient for classification | Mouse          | NOAEL 105 mg/kg/day | 28 days |
| Toluene | Ingestion | immune system        | Some positive data exist, but the data are not sufficient for classification | Mouse          | NOAEL 105 mg/kg/day | 4 weeks |

**Aspiration Hazard**

| Name    | Value             |
|---------|-------------------|
| Toluene | Aspiration hazard |

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 - Yes

**15.2. State Regulations**

Contact 3M for more information.

**California Proposition 65****Ingredient**Toluene  
Toluene**C.A.S. No.**108-88-3  
108-88-3**Classification**Female reproductive toxin  
Developmental Toxin

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

**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: 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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