



Safety Data Sheet

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|------------------------|-----------|-------------------------|----------|
| Document Group: | 11-2411-4 | Version Number: | 17.00 |
| Issue Date: | 04/16/15 | Supersedes Date: | 11/02/12 |

Product identifier

3M™ Scotch-Weld™ Epoxy Adhesive DP420 Off-White

ID Number(s):

62-3280-1430-3, 62-3280-1435-2, 62-3280-1438-6, 62-3280-3530-8, 62-3280-3830-2

Recommended use

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:

22-0528-4, 11-2409-8

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| Issue Date: | 04/16/15 | Supersedes Date: | 01/04/12 |

SECTION 1: Identification

1.1. Product identifier

3M™ Scotch-Weld™ Epoxy Adhesive DP420 Off-White, Part B

1.2. Recommended use and restrictions on use

Recommended use

Structural adhesive

1.3. Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Industrial Adhesives and Tapes Division |
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

1.4. Emergency telephone number

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

SECTION 2: Hazard identification

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2B.

Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms



Hazard Statements

Causes eye irritation.
May cause an allergic skin reaction.

Precautionary Statements

Prevention:

Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

Disposal:

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

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 | 80 - 95 Trade Secret * |
| Acrylic Polymer (NJTS Reg No. 04499600-5018P) | Trade Secret* | 5 - 20 Trade Secret * |

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*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 |
| Irritant Vapors or Gases | 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

For industrial or professional use only. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

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

| | |
|----------------------------------|---|
| General Physical Form: | Liquid |
| Specific Physical Form: | Paste |
| Odor, Color, Grade: | White, very mild odor. |
| Odor threshold | <i>No Data Available</i> |
| pH | <i>Not Applicable</i> |
| Melting point | <i>No Data Available</i> |
| Boiling Point | ≥ 260 °C |
| Flash Point | 480 °F [<i>Test Method: Closed Cup</i>] |
| Evaporation rate | <i>Not Applicable</i> |
| Flammability (solid, gas) | <i>Not Applicable</i> |
| Flammable Limits(LEL) | <i>Not Applicable</i> |

| | |
|--|--|
| Flammable Limits(UEL) | <i>Not Applicable</i> |
| Vapor Pressure | <i>Not Applicable</i> |
| Vapor Density | <i>Not Applicable</i> |
| Density | 1.14 g/ml |
| Specific Gravity | 1.14 [Ref Std: 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 | 20,000 - 50,000 centipoise [@ 73.4 °F] |
| Hazardous Air Pollutants | 0 % weight [Test Method: Calculated] |
| VOC Less H2O & Exempt Solvents | 0 g/l [Test Method: calculated SCAQMD rule 443.1] [Details: when used as intended with Part A] |
| VOC Less H2O & Exempt Solvents | 5 g/l [Test Method: calculated SCAQMD rule 443.1] [Details: as supplied] |
| VOC Less H2O & Exempt Solvents | 0 % [Test Method: calculated SCAQMD rule 443.1] [Details: when used as intended with Part A] |

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products

| <u>Substance</u> | <u>Condition</u> |
|------------------|------------------|
| None known. | |

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation:

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

Skin Contact:

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

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:

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

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|---|-----------|---------|---|
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| Epoxy Resin | Dermal | Rat | LD50 > 1,600 mg/kg |
| Epoxy Resin | Ingestion | Rat | LD50 > 1,000 mg/kg |
| Acrylic Polymer (NJTS Reg No. 04499600-5018P) | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Acrylic Polymer (NJTS Reg No. 04499600-5018P) | Ingestion | Rat | LD50 > 5,000 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|---|-----------------------|--------------------|
| Epoxy Resin | Rabbit | Mild irritant |
| Acrylic Polymer (NJTS Reg No. 04499600-5018P) | Professional judgment | Minimal irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|---|-----------------------|-------------------|
| Epoxy Resin | Rabbit | Moderate irritant |
| Acrylic Polymer (NJTS Reg No. 04499600-5018P) | Professional judgment | Mild 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. 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.

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™ Scotch-Weld™ Epoxy Adhesive DP420 Off-White, Part A

1.2. Recommended use and restrictions on use

Recommended use

Structural adhesive

1.3. Supplier's details

| | |
|----------------------|---|
| MANUFACTURER: | 3M |
| DIVISION: | Industrial Adhesives and Tapes Division |
| ADDRESS: | 3M Center, St. Paul, MN 55144-1000, USA |
| Telephone: | 1-888-3M HELPS (1-888-364-3577) |

1.4. Emergency telephone number

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

SECTION 2: Hazard identification

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 1.

Skin Corrosion/Irritation: Category 1B.

2.2. Label elements

Signal word

Danger

Symbols

Corrosion |

Pictograms



Hazard Statements

Causes severe skin burns and eye damage.

Precautionary Statements

Prevention:

Do not breathe dust/fume/gas/mist/vapors/spray.
Wear protective gloves, protective clothing, and eye/face protection.
Wash thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
Wash contaminated clothing before reuse.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage:

Store locked up.

Disposal:

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

2.3. Hazards not otherwise classified

May cause chemical gastrointestinal burns.

5% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|--|---------------|------------------------|
| Modified Epoxy Resin (NJTS Reg. No. 04499600-6839) | Trade Secret* | 40 - 80 Trade Secret * |
| 4,7,10-Trioxatridecane-1,13-Diamine | 4246-51-9 | 10 - 50 Trade Secret * |
| 2,4,6-tris((Dimethylamino)Methyl)Phenol | 90-72-2 | 3 - 7 Trade Secret * |
| Amorphous Silica | 67762-90-7 | 1 - 5 Trade Secret * |
| Calcium Salt | 55120-75-7 | 1 - 5 Trade Secret * |

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

*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 flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

Eye Contact:

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

If Swallowed:

Rinse mouth. Do not induce vomiting. Get immediate medical attention.

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

See Section 11.1. Information on toxicological effects.

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

| <u>Substance</u> | <u>Condition</u> |
|--------------------------|-------------------|
| Aldehydes | During Combustion |
| Carbon monoxide | During Combustion |
| Carbon dioxide | During Combustion |
| Irritant Vapors or Gases | During Combustion |
| Oxides of Nitrogen | 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

For industrial or professional use only. 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. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

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

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|---|------------|-------------------------|--|---------------------|
| Calcium Salt | 55120-75-7 | Manufacturer determined | TWA:0.1 mg/m3 | Skin Notation |
| Amorphous Silica | 67762-90-7 | CMRG | CEIL:5 mg/m3 | |
| SILICA, AMORPHOUS | 67762-90-7 | OSHA | TWA concentration:0.8 mg/m3;TWA:20 millions of particles/cu. ft. | |
| 2,4,6-tris((Dimethylamino)Methyl)Phenol | 90-72-2 | CMRG | TWA:5 ppm | |

ACGIH : American Conference of Governmental Industrial Hygienists
 AIHA : American Industrial Hygiene Association
 CMRG : Chemical Manufacturer's Recommended Guidelines
 OSHA : United States Department of Labor - Occupational Safety and Health Administration
 TWA: Time-Weighted-Average
 STEL: Short Term Exposure Limit
 CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

- Full Face Shield
- Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

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

Polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--------------------------------|--|
| General Physical Form: | Liquid |
| Specific Physical Form: | Paste |
| Odor, Color, Grade: | Amber, very mild pungent odor. |
| Odor threshold | <i>No Data Available</i> |
| pH | <i>Not Applicable</i> |
| Melting point | <i>No Data Available</i> |
| Boiling Point | ≥ 175 °C |
| Flash Point | ≥ 340 °F [<i>Test Method: Closed Cup</i>] |
| Evaporation rate | <i>Not Applicable</i> |
| Flammability (solid, gas) | Not Applicable |
| Flammable Limits(LEL) | <i>Not Applicable</i> |
| Flammable Limits(UEL) | <i>Not Applicable</i> |
| Vapor Pressure | <i>Not Applicable</i> |
| Vapor Density | <i>Not Applicable</i> |
| Density | 1.12 g/ml |
| Specific Gravity | 1.12 [<i>Ref Std: WATER=1</i>] |
| Solubility in Water | Slight (less than 10%) |
| Solubility- non-water | <i>No Data Available</i> |
| Autoignition temperature | <i>No Data Available</i> |
| Decomposition temperature | <i>No Data Available</i> |
| Viscosity | 8,000 - 14,000 centipoise [<i>@ 73.4 °F</i>] |
| Hazardous Air Pollutants | 0 % weight [<i>Test Method: Calculated</i>] |
| VOC Less H2O & Exempt Solvents | 0 g/l [<i>Test Method: calculated SCAQMD rule 443.1</i>] [<i>Details: when used as intended with Part B</i>] |
| VOC Less H2O & Exempt Solvents | 0 g/l [<i>Test Method: calculated SCAQMD rule 443.1</i>] [<i>Details: as supplied</i>] |
| VOC Less H2O & Exempt Solvents | 0 % [<i>Test Method: calculated SCAQMD rule 443.1</i>] [<i>Details: when used as intended with Part B</i>] |

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products**Substance**

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:

Corrosive (Skin Burns): Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

Eye Contact:

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

Ingestion:

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

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|-------------------------------------|-------------|---------|---|
| Overall product | Dermal | | No data available; calculated ATE > 5,000 mg/kg |
| Overall product | Ingestion | | No data available; calculated ATE > 5,000 mg/kg |
| 4,7,10-Trioxatridecane-1,13-Diamine | Dermal | Rabbit | LD50 2,500 mg/kg |
| 4,7,10-Trioxatridecane-1,13-Diamine | Ingestion | Rat | LD50 3,160 mg/kg |
| Amorphous Silica | Dermal | Rabbit | LD50 > 5,000 mg/kg |
| Amorphous Silica | Inhalation- | Rat | LC50 > 0.691 mg/l |

| | Dust/Mist (4 hours) | | |
|---|------------------------|-----|--------------------|
| Amorphous Silica | Ingestion | Rat | LD50 > 5,110 mg/kg |
| 2,4,6-tris((Dimethylamino)Methyl)Phenol | Dermal | Rat | LD50 1,280 mg/kg |
| 2,4,6-tris((Dimethylamino)Methyl)Phenol | Ingestion | Rat | LD50 1,000 mg/kg |
| Calcium Salt | Ingestion | Rat | LD50 > 2,000 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|---|---------|---------------------------|
| 4,7,10-Trioxatridecane-1,13-Diamine | Rabbit | Corrosive |
| Amorphous Silica | Rabbit | No significant irritation |
| 2,4,6-tris((Dimethylamino)Methyl)Phenol | Rabbit | Corrosive |
| Calcium Salt | Rabbit | Irritant |

Serious Eye Damage/Irritation

| Name | Species | Value |
|---|------------------------|---------------------------|
| 4,7,10-Trioxatridecane-1,13-Diamine | similar health hazards | Corrosive |
| Amorphous Silica | Rabbit | No significant irritation |
| 2,4,6-tris((Dimethylamino)Methyl)Phenol | Rabbit | Corrosive |
| Calcium Salt | Rabbit | Corrosive |

Skin Sensitization

| Name | Species | Value |
|---|------------------|--|
| Amorphous Silica | Human and animal | Not sensitizing |
| 2,4,6-tris((Dimethylamino)Methyl)Phenol | Guinea pig | Some positive data exist, but the data are not sufficient for classification |

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 |
|---|----------|---------------|
| Amorphous Silica | In Vitro | Not mutagenic |
| 2,4,6-tris((Dimethylamino)Methyl)Phenol | In Vitro | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|------------------|---------------|---------|--|
| Amorphous Silica | Not Specified | 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 |
|------------------|-----------|----------------------------------|---------|-----------------------|----------------------|
| Amorphous Silica | Ingestion | Not toxic to female reproduction | Rat | NOAEL 509 mg/kg/day | 1 generation |
| Amorphous Silica | Ingestion | Not toxic to male reproduction | Rat | NOAEL 497 mg/kg/day | 1 generation |
| Amorphous Silica | Ingestion | Not toxic to development | Rat | NOAEL 1,350 mg/kg/day | during organogenesis |

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 | |
| 2,4,6-tris((Dimethylamino)Methyl)Phenol | Inhalation | respiratory irritation | Some positive data exist, but the data are not sufficient for classification | | NOAEL Not available | |

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|---|------------|---|--|---------|---------------------|-----------------------|
| Amorphous Silica | Inhalation | respiratory system silicosis | All data are negative | Human | NOAEL Not available | occupational exposure |
| 2,4,6-tris((Dimethylamino)Methyl)Phenol | Dermal | skin liver nervous system | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 125 mg/kg/day | 28 days |
| 2,4,6-tris((Dimethylamino)Methyl)Phenol | Dermal | auditory system hematopoietic system eyes | All data are negative | Rat | NOAEL 125 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. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

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

SECTION 15: Regulatory information

15.1. US Federal Regulations

Contact 3M for more information.

311/312 Hazard Categories:

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

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

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

SECTION 16: Other information

NFPA Hazard Classification

Health: 3 Flammability: 1 Instability: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

| | | | |
|------------------------|-----------|-------------------------|----------|
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