



## Safety Data Sheet

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### Product identifier

3M™ Scotch-Weld™ Urethane Adhesive EC-3535 B/A

ID Number	UPC	ID Number	UPC
62-3535-6440-4	00021200652226	87-2500-0330-5	00048011985572
87-2500-0331-3	00048011985572	87-2500-0345-3	00048011985800
87-2500-0346-1	00048011985817		

### Recommended use

Adhesive

### Supplier's details

**MANUFACTURER:** 3M  
**DIVISION:** Aerospace and Commercial Transportation Division

**ADDRESS:** 3M Center, St. Paul, MN 55144-1000, USA  
**Telephone:** 1-888-3M HELPS (1-888-364-3577)

### Emergency telephone number

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

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

19-8533-2, 25-2880-0

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### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Scotch-Weld™ Urethane Adhesive EC-3535 B/A, Part A

#### Product Identification Numbers

62-3635-8540-7

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

##### Recommended use

Accelerator component (Part A) of 2-part polyurethane adhesive

#### 1.3. Supplier's details

<b>MANUFACTURER:</b>	3M
<b>DIVISION:</b>	Aerospace and Commercial Transportation 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 (inhalation): Category 4.  
Serious Eye Damage/Irritation: Category 2A.  
Skin Corrosion/Irritation: Category 2.  
Respiratory Sensitizer: Category 1.  
Skin Sensitizer: Category 1.  
Specific Target Organ Toxicity (respiratory irritation): Category 3.  
Specific Target Organ Toxicity (repeated exposure): Category 1.

#### 2.2. Label elements

##### Signal word

Danger

##### Symbols

Exclamation mark | Health Hazard |

**Pictograms**



**Hazard Statements**

Causes serious eye irritation.  
Causes skin irritation.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.  
Harmful if inhaled.  
May cause respiratory irritation.

Causes damage to organs through prolonged or repeated exposure:  
respiratory system |

**Precautionary Statements**

**Prevention:**

Do not breathe dust/fume/gas/mist/vapors/spray.  
Use only outdoors or in a well-ventilated area.  
In case of inadequate ventilation wear respiratory protection.  
Wear protective gloves and eye/face protection.  
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 INHALED: Remove person to fresh air and keep comfortable for breathing.  
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
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.  
Take off contaminated clothing and wash it before reuse.  
Call a POISON CENTER or doctor/physician if you feel unwell.

**Storage:**

Store in a well-ventilated place. Keep container tightly closed.  
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 isocyanates may develop a cross-sensitization reaction to other isocyanates.

50% of the mixture consists of ingredients of unknown acute oral toxicity.

**SECTION 3: Composition/information on ingredients**

Ingredient	C.A.S. No.	% by Wt
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Urethane Prepolymer (N.J.T.S. Reg. No. 14499600-5770P)	Trade Secret*	30 - 60
Polymethylene Polyphenylene Isocyanate	9016-87-9	10 - 30 Trade Secret *
Talc	14807-96-6	10 - 30 Trade Secret *
p,p'-Methylenebis(phenyl isocyanate)	101-68-8	1 - 15 Trade Secret *
Diphenylmethane Diisocyanate (MDI)	26447-40-5	1 - 10 Trade Secret *
Zeolites	68989-22-0	1 - 5

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

**Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

**Skin Contact:**

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

**Eye Contact:**

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

**If Swallowed:**

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

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

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 carbon dioxide or dry chemical extinguisher 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>
Isocyanates	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Cyanide	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**

Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow to react for more than 30 minutes. Cover with absorbent material. 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 container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. 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. Dispose of collected material as soon as possible.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

Avoid breathing of dust created by cutting, sanding, grinding or machining. 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. Avoid release to the environment. Wash contaminated clothing before reuse.

**7.2. Conditions for safe storage including any incompatibilities**

Store in a well-ventilated place. Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from heat.

**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
p,p'-Methylenebis(phenyl isocyanate)	101-68-8	ACGIH	TWA:0.005 ppm	
FREE ISOCYANATES	101-68-8	Manufacturer determined	TWA:0.005 ppm;STEL:0.02 ppm	
p,p'-Methylenebis(phenyl isocyanate)	101-68-8	OSHA	CEIL:0.2 mg/m <sup>3</sup> (0.02 ppm)	
Talc	14807-96-6	ACGIH	TWA(respirable fraction):2 mg/m <sup>3</sup>	A4: Not class. as human carcin
Talc	14807-96-6	CMRG	TWA(as respirable dust):0.5 mg/m <sup>3</sup>	
Talc	14807-96-6	OSHA	TWA concentration(as total	

			dust):0.3 mg/m <sup>3</sup> ;TWA concentration(respirable):0.1 mg/m <sup>3</sup> (2.4 millions of particles/cu. ft.);TWA:20 millions of particles/cu. ft.	
FREE ISOCYANATES	26447-40-5	Manufacturer determined	TWA:0.005 ppm;STEL:0.02 ppm	
Aluminum, insoluble compounds	68989-22-0	ACGIH	TWA(respirable fraction):1 mg/m <sup>3</sup>	A4: Not class. as human carcin
FREE ISOCYANATES	9016-87-9	Manufacturer determined	TWA:0.005 ppm;STEL:0.02 ppm	
Benzene, 1,1'-methylenebis[4-isocyanato-	9016-87-9	ACGIH	TWA:0.005 ppm	
Benzene, 1,1'-methylenebis[4-isocyanato-	9016-87-9	OSHA	CEIL:0.2 mg/m <sup>3</sup> (0.02 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:

Indirect Vented Goggles

#### Skin/hand protection

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

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

Nitrile Rubber

Natural Rubber

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

Apron – Nitrile

#### 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>	Paste
<b>Odor, Color, Grade:</b>	Brown, slight 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>	>=186 °C
<b>Flash Point</b>	>=367 °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>	<i>No Data Available</i>
<b>Vapor Density</b>	<i>No Data Available</i>
<b>Density</b>	1.34 g/ml
<b>Specific Gravity</b>	1.34 [ <i>Ref Std:</i> WATER=1]
<b>Solubility in Water</b>	Slight (less than 10%)
<b>Solubility- non-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>	15,000 - 32,000 centipoise [ <i>@ 73.4 °F</i> ] [ <i>Test Method:</i> Brookfield]
<b>Hazardous Air Pollutants</b>	15.2 % weight [ <i>Test Method:</i> Calculated]
<b>Volatile Organic Compounds</b>	8.7 - 9 g/l [ <i>Test Method:</i> tested per EPA method 24]
<b>Percent volatile</b>	0 - 1 % [ <i>Test Method:</i> ACS METHOD]
<b>VOC Less H2O &amp; Exempt Solvents</b>	8.7 - 9 g/l [ <i>Test Method:</i> tested per EPA method 24]
<b>VOC Less H2O &amp; Exempt Solvents</b>	1.7 - 2 g/l [ <i>Test Method:</i> tested per EPA method 24] [ <i>Details:</i> when used as intended with Part B]

## 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

### 10.5. Incompatible materials

Amines  
Alcohols



Water

Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.

#### 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:

Harmful if inhaled.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

May cause additional health effects (see below).

##### Skin Contact:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

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

##### Eye Contact:

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

##### Ingestion:

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

#### Additional Health Effects:

##### Prolonged or repeated exposure may cause target organ effects:

Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

##### Additional Information:

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

**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	Inhalation-Vapor(4 hr)		No data available; calculated ATE 10 - 20 mg/l
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
Talc	Dermal		LD50 Not available
Talc	Ingestion		LD50 Not available
Polymethylene Polyphenylene Isocyanate	Inhalation-Vapor		LC50 estimated to be 10 - 20 mg/l
Polymethylene Polyphenylene Isocyanate	Dermal	Rabbit	LD50 > 5,000 mg/kg
Polymethylene Polyphenylene Isocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.369 mg/l
Polymethylene Polyphenylene Isocyanate	Ingestion	Rat	LD50 31,600 mg/kg
p,p'-Methylenebis(phenyl isocyanate)	Inhalation-Vapor		LC50 estimated to be 10 - 20 mg/l
p,p'-Methylenebis(phenyl isocyanate)	Dermal	Rabbit	LD50 > 5,000 mg/kg
p,p'-Methylenebis(phenyl isocyanate)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.369 mg/l
p,p'-Methylenebis(phenyl isocyanate)	Ingestion	Rat	LD50 31,600 mg/kg
Diphenylmethane Diisocyanate (MDI)	Inhalation-Vapor		LC50 estimated to be 10 - 20 mg/l
Diphenylmethane Diisocyanate (MDI)	Dermal	Rabbit	LD50 > 5,000 mg/kg
Diphenylmethane Diisocyanate (MDI)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.369 mg/l
Diphenylmethane Diisocyanate (MDI)	Ingestion	Rat	LD50 31,600 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
Talc	Rabbit	No significant irritation
Polymethylene Polyphenylene Isocyanate	official classification	Irritant
p,p'-Methylenebis(phenyl isocyanate)	official classification	Irritant
Diphenylmethane Diisocyanate (MDI)	official classification	Irritant

**Serious Eye Damage/Irritation**

Name	Species	Value
Talc	Rabbit	No significant irritation
Polymethylene Polyphenylene Isocyanate	official classification	Severe irritant
p,p'-Methylenebis(phenyl isocyanate)	official classification	Severe irritant
Diphenylmethane Diisocyanate (MDI)	official classification	Severe irritant

**Skin Sensitization**

Name	Species	Value
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Polymethylene Polyphenylene Isocyanate	official classification	Sensitizing
p,p'-Methylenebis(phenyl isocyanate)	official classification	Sensitizing
Diphenylmethane Diisocyanate (MDI)	official classification	Sensitizing

**Respiratory Sensitization**

Name	Species	Value
Talc	Human	Not sensitizing
Polymethylene Polyphenylene Isocyanate	Human	Sensitizing
p,p'-Methylenebis(phenyl isocyanate)	Human	Sensitizing
Diphenylmethane Diisocyanate (MDI)	Human	Sensitizing

**Germ Cell Mutagenicity**

Name	Route	Value
Talc	In Vitro	Not mutagenic
Talc	In vivo	Not mutagenic
Polymethylene Polyphenylene Isocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification
p,p'-Methylenebis(phenyl isocyanate)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Diphenylmethane Diisocyanate (MDI)	In Vitro	Some positive data exist, but the data are not sufficient for classification

**Carcinogenicity**

Name	Route	Species	Value
Talc	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Polymethylene Polyphenylene Isocyanate	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
p,p'-Methylenebis(phenyl isocyanate)	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Diphenylmethane Diisocyanate (MDI)	Inhalation	Rat	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
Talc	Ingestion	Not toxic to development	Rat	NOAEL 1,600 mg/kg	during organogenesis
Polymethylene Polyphenylene Isocyanate	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.004 mg/l	during organogenesis
p,p'-Methylenebis(phenyl isocyanate)	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.004 mg/l	during organogenesis
Diphenylmethane Diisocyanate (MDI)	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 0.004 mg/l	during organogenesis

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
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Polymethylene Polyphenylene Isocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
p,p'-Methylenebis(phenyl isocyanate)	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
Diphenylmethane Diisocyanate (MDI)	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Talc	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Talc	Inhalation	pulmonary fibrosis   respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 18 mg/m3	113 weeks
Polymethylene Polyphenylene Isocyanate	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
p,p'-Methylenebis(phenyl isocyanate)	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
Diphenylmethane Diisocyanate (MDI)	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks

**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 - Yes

#### Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
Polymethylene Polyphenylene Isocyanate	9016-87-9	10 - 30
p,p'-Methylenebis(phenyl isocyanate)	101-68-8	1 - 15

### 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: 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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## Safety Data Sheet

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### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Scotch-Weld™ Urethane Adhesive EC-3535 B/A, Part B

#### Product Identification Numbers

62-3535-8540-9

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

##### Recommended use

Base of 2-Part Urethane Adhesive

#### 1.3. Supplier's details

<b>MANUFACTURER:</b>	3M
<b>DIVISION:</b>	Aerospace and Commercial Transportation 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

Skin Sensitizer: Category 1.

Reproductive Toxicity: Category 1B.

Specific Target Organ Toxicity (repeated exposure): Category 1.

#### 2.2. Label elements

##### Signal word

Danger

##### Symbols

Exclamation mark | Health Hazard |

##### Pictograms



**Hazard Statements**

May cause an allergic skin reaction.  
 May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure:  
 respiratory system |

**Precautionary Statements**

**Prevention:**

Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 Do not breathe dust/fume/gas/mist/vapors/spray.  
 Wear protective gloves.  
 Do not eat, drink or smoke when using this product.  
 Wash thoroughly after handling.  
 Contaminated work clothing must not be allowed out of the workplace.

**Response:**

IF ON SKIN: Wash with plenty of soap and water.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 Wash contaminated clothing before reuse.  
 IF 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**

None.

**SECTION 3: Composition/information on ingredients**

Ingredient	C.A.S. No.	% by Wt
Polyester Resin (N.J.T.S. Reg. No. 04499600-7132)	Trade Secret*	30 - 60
Polypropylene Glycol	25322-69-4	10 - 30
Talc	14807-96-6	10 - 30 Trade Secret *
Titanium Dioxide	13463-67-7	5 - 10 Trade Secret *
Polyoxypropylene Triol	25723-16-4	1 - 5
o-Diethylbisaniline	13680-35-8	1 - 5
Zeolites	1318-02-1	1 - 5
beta-(3,4-epoxycyclohexyl)ethyltrimethoxy silane	3388-04-3	0.1 - 1
2-Ethylhexanoic Acid	149-57-5	0.1 - 1 Trade Secret *
Dibutyltin bis(2-ethylhexyl mercaptoacetate)	10584-98-2	0.1 - 1

\*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:

No need for first aid is anticipated.

#### 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>
Carbon monoxide	During Combustion
Carbon dioxide	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

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. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

### 7.2. Conditions for safe storage including any incompatibilities

Store away from heat. 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
TIN, ORGANIC COMPOUNDS	10584-98-2	ACGIH	TWA(as Sn):0.1 mg/m <sup>3</sup> ;STEL(as Sn):0.2 mg/m <sup>3</sup>	A4: Not class. as human carcin, Skin Notation
TIN, ORGANIC COMPOUNDS	10584-98-2	OSHA	TWA(as Sn):0.1 mg/m <sup>3</sup>	
Aluminum, insoluble compounds	1318-02-1	ACGIH	TWA(respirable fraction):1 mg/m <sup>3</sup>	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	OSHA	TWA(as total dust):15 mg/m <sup>3</sup>	
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m <sup>3</sup>	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	CMRG	TWA(as respirable dust):5 mg/m <sup>3</sup>	
Talc	14807-96-6	OSHA	TWA concentration(as total dust):0.3 mg/m <sup>3</sup> ;TWA concentration(respirable):0.1 mg/m <sup>3</sup> (2.4 millions of particles/cu. ft.);TWA:20 millions of particles/cu. ft.	
Talc	14807-96-6	ACGIH	TWA(respirable fraction):2 mg/m <sup>3</sup>	A4: Not class. as human carcin
Talc	14807-96-6	CMRG	TWA(as respirable dust):0.5 mg/m <sup>3</sup>	
2-Ethylhexanoic Acid	149-57-5	ACGIH	TWA(inhalable fraction and vapor):5 mg/m <sup>3</sup>	
Polypropylene Glycol	25322-69-4	AIHA	TWA(as aerosol):10 mg/m <sup>3</sup>	

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.

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

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

#### 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>	Paste
<b>Odor, Color, Grade:</b>	White, resinous odor.
<b>Odor threshold</b>	<i>No Data Available</i>
<b>pH</b>	<i>Not Applicable</i>
<b>Melting point</b>	<i>No Data Available</i>
<b>Boiling Point</b>	>=179 °C
<b>Flash Point</b>	>=354 °F [ <i>Test Method: Closed Cup</i> ]
<b>Evaporation rate</b>	<i>Not Applicable</i>
<b>Flammability (solid, gas)</b>	Not Applicable
<b>Flammable Limits(LEL)</b>	<i>Not Applicable</i>
<b>Flammable Limits(UEL)</b>	<i>Not Applicable</i>
<b>Vapor Pressure</b>	<i>Not Applicable</i>
<b>Vapor Density</b>	<i>Not Applicable</i>
<b>Density</b>	1.31 g/ml
<b>Specific Gravity</b>	1.31 [ <i>Ref Std: WATER=1</i> ]
<b>Solubility in Water</b>	Negligible

<b>Solubility- non-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>	5,000 - 40,000 centipoise [ @ 73.4 °F ] [ <i>Test Method:</i> Brookfield ]
<b>Hazardous Air Pollutants</b>	0 % weight [ <i>Test Method:</i> Calculated ]
<b>Volatile Organic Compounds</b>	17 g/l [ <i>Test Method:</i> tested per EPA method 24 ]
<b>Percent volatile</b>	1 - 2 % weight [ <i>Test Method:</i> ACS METHOD ]
<b>VOC Less H2O &amp; Exempt Solvents</b>	17 g/l [ <i>Test Method:</i> tested per EPA method 24 ]
<b>VOC Less H2O &amp; Exempt Solvents</b>	2 g/l [ <i>Test Method:</i> tested per EPA method 24 ] [ <i>Details:</i> 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

### 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:

May cause additional health effects (see below).

#### Skin Contact:

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:**

May be harmful if swallowed.

**Additional Health Effects:**

**Prolonged or repeated exposure may cause target organ effects:**

Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

**Reproductive/Developmental Toxicity:**

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

**Carcinogenicity:**

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

**Toxicological Data**

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

**Acute Toxicity**

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg
Polypropylene Glycol	Dermal	Rabbit	LD50 > 10,000 mg/kg
Polypropylene Glycol	Ingestion	Rat	LD50 > 2,000 mg/kg
Talc	Dermal		LD50 Not available
Talc	Ingestion		LD50 Not available
Titanium Dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium Dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium Dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Polyoxypropylene Triol	Dermal	Rat	LD50 > 2,000 mg/kg
Polyoxypropylene Triol	Ingestion	Rat	LD50 > 2,500 mg/kg
Zeolites	Dermal	Rabbit	LD50 > 2,000 mg/kg
Zeolites	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4.57 mg/l
Zeolites	Ingestion	Rat	LD50 > 5,000 mg/kg
o-Diethylbisaniiline	Ingestion	Rat	LD50 1,901 mg/kg
beta-(3,4-epoxycyclohexyl)ethyltrimethoxy silane	Dermal	Rabbit	LD50 6,700 mg/kg
beta-(3,4-epoxycyclohexyl)ethyltrimethoxy silane	Inhalation-Vapor (4 hours)	Rat	LC50 > 7 mg/l
beta-(3,4-epoxycyclohexyl)ethyltrimethoxy silane	Ingestion	Rat	LD50 13,100 mg/kg
2-Ethylhexanoic Acid	Dermal	Rat	LD50 > 2,000 mg/kg
2-Ethylhexanoic Acid	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 3.54 mg/l
2-Ethylhexanoic Acid	Ingestion	Rat	LD50 1,600 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
Polypropylene Glycol	Rabbit	No significant irritation
Talc	Rabbit	No significant irritation
Titanium Dioxide	Rabbit	No significant irritation
Polyoxypropylene Triol	Rabbit	No significant irritation
Zeolites	Rabbit	No significant irritation
o-Diethylbisaniline	Rabbit	Minimal irritation
beta-(3,4-epoxycyclohexyl)ethyltrimethoxy silane	Rabbit	Minimal irritation
2-Ethylhexanoic Acid	Rabbit	Corrosive

**Serious Eye Damage/Irritation**

Name	Species	Value
Polypropylene Glycol	Rabbit	No significant irritation
Talc	Rabbit	No significant irritation
Titanium Dioxide	Rabbit	No significant irritation
Polyoxypropylene Triol	Rabbit	Mild irritant
Zeolites	Rabbit	Mild irritant
o-Diethylbisaniline	Rabbit	No significant irritation
beta-(3,4-epoxycyclohexyl)ethyltrimethoxy silane	Rabbit	No significant irritation
2-Ethylhexanoic Acid	Rabbit	Corrosive

**Skin Sensitization**

Name	Species	Value
Titanium Dioxide	Human and animal	Not sensitizing

**Respiratory Sensitization**

Name	Species	Value
Talc	Human	Not sensitizing

**Germ Cell Mutagenicity**

Name	Route	Value
Talc	In Vitro	Not mutagenic
Talc	In vivo	Not mutagenic
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In vivo	Not mutagenic
o-Diethylbisaniline	In Vitro	Not mutagenic
beta-(3,4-epoxycyclohexyl)ethyltrimethoxy silane	In Vitro	Some positive data exist, but the data are not sufficient for classification
2-Ethylhexanoic Acid	In Vitro	Some positive data exist, but the data are not sufficient for classification

**Carcinogenicity**

Name	Route	Species	Value
Talc	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Titanium Dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium Dioxide	Inhalation	Rat	Carcinogenic
beta-(3,4-epoxycyclohexyl)ethyltrimethoxy silane	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
Talc	Ingestion	Not toxic to development	Rat	NOAEL	during

				1,600 mg/kg	organogenesis
2-Ethylhexanoic Acid	Ingestion	Toxic to female reproduction	Rat	NOAEL 300 mg/kg/day	1 generation
2-Ethylhexanoic Acid	Ingestion	Toxic to male reproduction	Rat	NOAEL 300 mg/kg/day	1 generation
2-Ethylhexanoic Acid	Ingestion	Toxic to development	Multiple animal species	NOAEL 100 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
2-Ethylhexanoic Acid	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
Talc	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Talc	Inhalation	pulmonary fibrosis   respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 18 mg/m3	113 weeks
Titanium Dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.010 mg/l	2 years
Titanium Dioxide	Inhalation	pulmonary fibrosis	All data are negative	Human	NOAEL Not available	occupational exposure
2-Ethylhexanoic Acid	Ingestion	blood   liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,068 mg/kg/day	13 weeks
2-Ethylhexanoic Acid	Ingestion	skin   kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 3,139 mg/kg/day	13 weeks

**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 - Yes

### 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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