



Safety Data Sheet

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Issue Date:	07/26/18	Supersedes Date:	01/05/18

Product identifier

3M™ Scotch-Weld™ Repair Paste 2110 B/A

ID Number(s):

70-2022-8149-2, 87-2500-0475-8

Recommended use

Polyurethane Protective Tape Repair Paste

Supplier's details

MANUFACTURER:	3M
DIVISION:	Automotive and Aerospace Solutions 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:

31-1732-2, 31-1735-5

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Document Group:	31-1732-2	Version Number:	4.00
Issue Date:	10/22/18	Supersedes Date:	05/15/17

SECTION 1: Identification

1.1. Product identifier

3M™ Scotch-Weld™ Repair Paste 2110 B/A Part B

1.2. Recommended use and restrictions on use

Recommended use

Part B of two component Polyurethane Protective Tape Repair Paste

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Automotive and Aerospace Solutions 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

Skin Sensitizer: Category 1A.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms



Hazard Statements

May cause an allergic skin reaction.

Precautionary Statements**Prevention:**

Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
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.

Disposal:

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

82% of the mixture consists of ingredients of unknown acute oral toxicity.
82% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
POLYURETHANE PREPOLYMER	Trade Secret*	55 - 85
POLY(TETRAMETHYLENE ETHER)	25190-06-1	5 - 25
1,4-BUTANEDIOL	110-63-4	1 - 5 Trade Secret *
2-(2H-BENZOTRIAZOL-2-YL)-6-DODECYL-4-METHYLPHENOL	125304-04-3	0.1 - 5
BIS(PENTAMETHYL-4-PIPERIDINYL) SEBACATE	41556-26-7	0.1 - 5 Trade Secret *
CARBON BLACK	1333-86-4	0.5 - 5 Trade Secret *
ZEOLITES	1318-02-1	0.5 - 5
METHYL 1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL SEBACATE	82919-37-7	0.1 - 2 Trade Secret *
DIBUTYL TIN DILAURATE	77-58-7	<= 0.1 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

Substance

Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

7.2. Conditions for safe storage including any incompatibilities

Store away from 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
Aluminum, insoluble compounds	1318-02-1	ACGIH	TWA(respirable fraction):1 mg/m ³	A4: Not class. as human carcin
CARBON BLACK	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m ³	A3: Confirmed animal carcin.
CARBON BLACK	1333-86-4	OSHA	TWA:3.5 mg/m ³	
TIN, ORGANIC COMPOUNDS	77-58-7	ACGIH	TWA(as Sn):0.1 mg/m ³ ;STEL(as Sn):0.2 mg/m ³	SKIN, A4: Not class. as human carcin
TIN, ORGANIC COMPOUNDS	77-58-7	OSHA	TWA(as Sn):0.1 mg/m ³	

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:

Safety Glasses with side shields

Skin/hand protection

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

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

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

Respiratory protection

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

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

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Liquid
Specific Physical Form:	Paste
Odor, Color, Grade:	Black, Viscous Liquid, Slight Mild Odor.
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Boiling Point	≥ 179 °C
Flash Point	≥ 354 °F [<i>Test Method</i> :Closed Cup]
Evaporation rate	<i>Not Applicable</i>
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
Vapor Pressure	<i>No Data Available</i>
Vapor Density	<i>Not Applicable</i>
Density	1.05 g/ml
Specific Gravity	1.05 [<i>Ref Std</i> :WATER=1]
Solubility in Water	Negligible
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	60,000 - 90,000 centipoise [<i>@ 71 °F</i>] [<i>Test Method</i> :Tested per ASTM protocol] [<i>Details</i> :D 2556]
Hazardous Air Pollutants	0 g/l
Percent volatile	< 0.5 % weight

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Strong oxidizing agents

10.6. Hazardous decomposition products**Substance****Condition**

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

11.1. Information on Toxicological effects**Signs and Symptoms of Exposure**

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

Inhalation:

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

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.

Toxicological Data

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

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg
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
1,4-BUTANEDIOL	Dermal	Rat	LD50 > 5,000 mg/kg
1,4-BUTANEDIOL	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.1 mg/l
1,4-BUTANEDIOL	Ingestion	Rat	LD50 1,500 mg/kg
CARBON BLACK	Dermal	Rabbit	LD50 > 3,000 mg/kg
2-(2H-BENZOTRIAZOL-2-YL)-6-DODECYL-4-METHYLPHENOL	Dermal	Rat	LD50 > 2,000 mg/kg
2-(2H-BENZOTRIAZOL-2-YL)-6-DODECYL-4-METHYLPHENOL	Ingestion	Rat	LD50 > 5,000 mg/kg

CARBON BLACK	Ingestion	Rat	LD50 > 8,000 mg/kg
BIS(PENTAMETHYL-4-PIPERIDINYL) SEBACATE	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
BIS(PENTAMETHYL-4-PIPERIDINYL) SEBACATE	Ingestion	Rat	LD50 3,125 mg/kg
METHYL 1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL SEBACATE	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
METHYL 1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL SEBACATE	Ingestion	Rat	LD50 3,125 mg/kg
DIBUTYLTIN DILAURATE	Dermal	Rat	LD50 > 2,000 mg/kg
DIBUTYLTIN DILAURATE	Ingestion	Rat	LD50 1,290 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
ZEOLITES	Rabbit	No significant irritation
1,4-BUTANEDIOL	Rabbit	No significant irritation
2-(2H-BENZOTRIAZOL-2-YL)-6-DODECYL-4-METHYLPHENOL	Rabbit	No significant irritation
CARBON BLACK	Rabbit	No significant irritation
BIS(PENTAMETHYL-4-PIPERIDINYL) SEBACATE	Rabbit	No significant irritation
METHYL 1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL SEBACATE	Rabbit	No significant irritation
DIBUTYLTIN DILAURATE	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
ZEOLITES	Rabbit	Mild irritant
1,4-BUTANEDIOL	Rabbit	Mild irritant
2-(2H-BENZOTRIAZOL-2-YL)-6-DODECYL-4-METHYLPHENOL	Rabbit	No significant irritation
CARBON BLACK	Rabbit	No significant irritation
BIS(PENTAMETHYL-4-PIPERIDINYL) SEBACATE	Rabbit	No significant irritation
METHYL 1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL SEBACATE	Rabbit	No significant irritation
DIBUTYLTIN DILAURATE	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
1,4-BUTANEDIOL	Human and animal	Not classified
2-(2H-BENZOTRIAZOL-2-YL)-6-DODECYL-4-METHYLPHENOL	Guinea pig	Not classified
BIS(PENTAMETHYL-4-PIPERIDINYL) SEBACATE	Guinea pig	Sensitizing
METHYL 1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL SEBACATE	Guinea pig	Sensitizing
DIBUTYLTIN DILAURATE	Guinea pig	Sensitizing

Respiratory Sensitization

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

Germ Cell Mutagenicity

Name	Route	Value
1,4-BUTANEDIOL	In Vitro	Not mutagenic
CARBON BLACK	In Vitro	Not mutagenic
CARBON BLACK	In vivo	Some positive data exist, but the data are not sufficient for classification
BIS(PENTAMETHYL-4-PIPERIDINYL) SEBACATE	In Vitro	Not mutagenic
METHYL 1,2,2,6,6-PENTAMETHYL-4-PIPERIDINYL SEBACATE	In Vitro	Not mutagenic
DIBUTYLTIN DILAURATE	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
CARBON BLACK	Dermal	Mouse	Not carcinogenic
CARBON BLACK	Ingestion	Mouse	Not carcinogenic
CARBON BLACK	Inhalation	Rat	Carcinogenic

Reproductive Toxicity**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
1,4-BUTANEDIOL	Ingestion	Not classified for development	Mouse	NOAEL 600 mg/kg/day	during organogenesis
DIBUTYLTIN DILAURATE	Ingestion	Toxic to female reproduction	Rat	NOAEL 2 mg/kg/day	prematuring into lactation
DIBUTYLTIN DILAURATE	Ingestion	Toxic to development	Rat	NOAEL 2.5 mg/kg/day	during gestation

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

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
1,4-BUTANEDIOL	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 4.6 mg/l	4 hours
1,4-BUTANEDIOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL Not available	not available
1,4-BUTANEDIOL	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
1,4-BUTANEDIOL	Inhalation	heart blood liver immune system	Not classified	Rat	NOAEL 5.2 mg/l	2 weeks
1,4-BUTANEDIOL	Inhalation	nervous system kidney and/or bladder	Not classified	Rat	NOAEL 0.5 mg/l	4 months
1,4-BUTANEDIOL	Ingestion	liver	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
CARBON BLACK	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
DIBUTYLTIN DILAURATE	Ingestion	liver	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 2 mg/kg/day	2 weeks
DIBUTYLTIN DILAURATE	Ingestion	immune system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.3 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.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Not applicable

Health Hazards

Respiratory or Skin Sensitization

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

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

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

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

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SECTION 1: Identification

1.1. Product identifier

3M™ Scotch-Weld™ Repair Paste 2110 B/A Part A

1.2. Recommended use and restrictions on use

Recommended use

Part A of two component Polyurethane Protective Tape Repair Paste, Industrial use

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Automotive and Aerospace Solutions Division
ADDRESS:	3M Center, St. Paul, MN 55144-1000, USA
Telephone:	1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

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

SECTION 2: Hazard identification

2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2A.

Skin Corrosion/Irritation: Category 2.

Respiratory Sensitizer: Category 1.

Skin Sensitizer: Category 1.

2.2. Label elements

Signal word

Danger

Symbols

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.

Precautionary Statements

Prevention:

Avoid breathing dust/fume/gas/mist/vapors/spray.
 In case of inadequate ventilation wear respiratory protection.
 Wear protective gloves and eye/face protection.
 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.

Disposal:

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

Supplemental Information:

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

90% of the mixture consists of ingredients of unknown acute oral toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
POLYURETHANE PREPOLYMER	Trade Secret*	70 - 90
METHYLENEBIS(4-CYCLOHEXYL ISOCYANATE)	5124-30-1	10 - 25 Trade Secret *
HEXAMETHYLENE DIISOCYANATE POLYMER	28182-81-2	1 - 10 Trade Secret *
DIBUTYLTIN DILAURATE	77-58-7	<= 0.1 Trade Secret *

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

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

Skin Contact:

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

Eye Contact:

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

If Swallowed:

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

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

See Section 11.1. Information on toxicological effects.

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Isocyanates
Carbon monoxide
Carbon dioxide
Hydrogen Cyanide
Oxides of Nitrogen

Condition

During Combustion
During Combustion
During Combustion
During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

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 in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

7.2. Conditions for safe storage including any incompatibilities

Store 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 acids. Store away from strong bases. Store away from oxidizing agents. Store away from amines.

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
METHYLENEBIS(4-CYCLOHEXYL ISOCYANATE)	5124-30-1	ACGIH	TWA:0.005 ppm	
TIN, ORGANIC COMPOUNDS	77-58-7	ACGIH	TWA(as Sn):0.1 mg/m ³ ;STEL(as Sn):0.2 mg/m ³	SKIN, A4: Not class. as human carcin
TIN, ORGANIC COMPOUNDS	77-58-7	OSHA	TWA(as Sn):0.1 mg/m ³	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

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

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face

protection(s) are recommended:
Indirect Vented Goggles

Skin/hand protection

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

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

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

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:	Transparent; slight odor.
Odor threshold	<i>No Data Available</i>
pH	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Boiling Point	>=186 °C
Flash Point	>=367 °F [<i>Test Method</i> :Closed Cup]
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	Negligible
Vapor Density	<i>No Data Available</i>
Density	1.05 g/ml
Specific Gravity	1.05 [<i>Ref Std</i> :WATER=1]
Solubility in Water	Negligible
Solubility- non-water	<i>No Data Available</i>
Partition coefficient: n-octanol/ water	<i>No Data Available</i>
Autoignition temperature	<i>Not Applicable</i>
Decomposition temperature	<i>No Data Available</i>
Viscosity	190,000 - 270,000 centipoise [<i>@ 71 °F</i>] [<i>Test Method</i> :Tested per ASTM protocol] [<i>Details</i> :D 2556]
Volatile Organic Compounds	0 g/l [<i>Test Method</i> :calculated SCAQMD rule 443.1]
Percent volatile	0.0 % weight
VOC Less H2O & Exempt Solvents	0 g/l [<i>Test Method</i> :calculated SCAQMD rule 443.1]

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Amines

Alcohols

Water

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

Strong acids

Strong bases

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:

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.

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 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	Ingestion		No data available; calculated ATE >5,000 mg/kg
METHYLENEBIS(4-CYCLOHEXYL ISOCYANATE)	Dermal	Rabbit	LD50 > 10,000 mg/kg
METHYLENEBIS(4-CYCLOHEXYL ISOCYANATE)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.434 mg/l
METHYLENEBIS(4-CYCLOHEXYL ISOCYANATE)	Ingestion	Rat	LD50 9,900 mg/kg
HEXAMETHYLENE DIISOCYANATE POLYMER	Inhalation-Dust/Mist (4 hours)	Professional judgement	LC50 estimated to be 1 - 5 mg/l
HEXAMETHYLENE DIISOCYANATE POLYMER	Dermal	Rabbit	LD50 > 5,000 mg/kg
HEXAMETHYLENE DIISOCYANATE POLYMER	Ingestion	Rat	LD50 > 5,000 mg/kg
DIBUTYLTIN DILAURATE	Dermal	Rat	LD50 > 2,000 mg/kg
DIBUTYLTIN DILAURATE	Ingestion	Rat	LD50 1,290 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
HEXAMETHYLENE DIISOCYANATE POLYMER	Rabbit	Mild irritant
DIBUTYLTIN DILAURATE	Rabbit	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
HEXAMETHYLENE DIISOCYANATE POLYMER	Rabbit	Mild irritant
DIBUTYLTIN DILAURATE	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
HEXAMETHYLENE DIISOCYANATE POLYMER	Guinea pig	Sensitizing
DIBUTYLTIN DILAURATE	Guinea pig	Sensitizing

Respiratory Sensitization

Name	Species	Value
HEXAMETHYLENE DIISOCYANATE POLYMER	similar compounds	Not classified

Germ Cell Mutagenicity

Name	Route	Value
HEXAMETHYLENE DIISOCYANATE POLYMER	In Vitro	Not mutagenic
HEXAMETHYLENE DIISOCYANATE POLYMER	In vivo	Not mutagenic
DIBUTYLTIN DILAURATE	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

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

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
DIBUTYLTIN DILAURATE	Ingestion	Toxic to female reproduction	Rat	NOAEL 2 mg/kg/day	prematuring into lactation
DIBUTYLTIN DILAURATE	Ingestion	Toxic to development	Rat	NOAEL 2.5 mg/kg/day	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
HEXAMETHYLENE DIISOCYANATE POLYMER	Inhalation	respiratory irritation	May cause respiratory irritation		NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
HEXAMETHYLENE DIISOCYANATE POLYMER	Inhalation	immune system blood	Not classified	Rat	NOAEL 0.084 mg/l	2 weeks
DIBUTYLTIN DILAURATE	Ingestion	liver	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 2 mg/kg/day	2 weeks
DIBUTYLTIN DILAURATE	Ingestion	immune system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.3 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.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Not applicable

Health Hazards

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

Skin Corrosion or Irritation

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>
METHYLENEBIS(4-CYCLOHEXYL ISOCYANATE)	5124-30-1	Trade Secret 10 - 25
METHYLENEBIS(4-CYCLOHEXYL ISOCYANATE) (DIISOCYANATES (CERTAIN CHEMICALS ONLY))	5124-30-1	10 - 25

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

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

SECTION 16: Other information

NFPA Hazard Classification

Health: 2 Flammability: 1 Instability: 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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