



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Scotch-Weld™ Epoxy Adhesive 105 Clear, Part A

Product Identification Numbers

62-3387-8530-6
7000000856

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

Acute Toxicity (oral): Category 4.
Skin Sensitizer: Category 1A.

2.2. Label elements

Signal word

Warning

Symbols

Exclamation mark |

Pictograms

**Hazard Statements**

Harmful if swallowed.
May cause an allergic skin reaction.

Precautionary Statements**Prevention:**

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

Response:

IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Rinse mouth.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Disposal:

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

Supplemental Information:

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

2% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Mercaptan Polymer	72244-98-5	85 - 99 Trade Secret *
Propylene oxide modified polyamine	26950-63-0	1 - 10 Trade Secret *
bis(Dimethylaminoethyl)ether	3033-62-3	< 4 Trade Secret *
Triethylenetetramine	112-24-3	< 3 Trade Secret *
1,8-DIAZABICYCLO[5.4.0]UNDEC-7-ENE	6674-22-2	< 2 Trade Secret *

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

SECTION 4: First aid measures

4.1. Description of first aid measures**Inhalation:**

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

Skin Contact:

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

medical attention.

Eye Contact:

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.

If Swallowed:

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

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

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

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

Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

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

5.2. Special hazards arising from the substance or mixture

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

Hazardous Decomposition or By-Products

Substance

Amine Compounds
Carbon monoxide
Carbon dioxide
Oxides of Nitrogen
Oxides of Sulfur

Condition

During Combustion
During Combustion
During Combustion
During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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

6.2. Environmental precautions

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

6.3. Methods and material for containment and cleaning up

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

applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial/occupational use only. Not for consumer sale or use. 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

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

Ingredient	C.A.S. No.	Agency	Limit type	Additional Comments
Triethylenetetramine	112-24-3	AIHA	TWA:6 mg/m ³ (1 ppm)	SKIN
bis(Dimethylaminoethyl)ether	3033-62-3	ACGIH	TWA:0.05 ppm;STEL:0.15 ppm	Danger of cutaneous absorption

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

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

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

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

8.2.2. Personal protective equipment (PPE)

Eye/face protection

None required.

Skin/hand protection

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

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

Respiratory protection

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

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

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state

Liquid

Color

Colorless

Specific Physical Form:

Viscous Liquid

Odor

Mercaptan

Odor threshold

No Data Available

pH

Not Applicable

Melting point

Not Applicable

Boiling Point

No Data Available

Flash Point

≥ 200 °F [Test Method:Estimated]

Evaporation rate

No Data Available

Flammability (solid, gas)

Not Applicable

Flammable Limits(LEL)

No Data Available

Flammable Limits(UEL)

No Data Available

Vapor Pressure

≤ 1 mmHg [@ 20 °C]

Vapor Density

Not Applicable

Density

1.15 g/ml

Specific Gravity

1.15 [@ 20 °C] [Ref Std:WATER=1]

Solubility in Water

Nil

Solubility- non-water

No Data Available

Partition coefficient: n-octanol/ water

No Data Available

Autoignition temperature

Not Applicable

Decomposition temperature

No Data Available

Viscosity

Approximately 24,000 centipoise [@ 20 °C]

Hazardous Air Pollutants

0 % weight [Test Method:Calculated]

Molecular weight

No Data Available

Volatile Organic Compounds

35 g/l [Details:EU VOC content]

Percent volatile

< 0 % weight [Test Method:Estimated]

VOC Less H₂O & Exempt Solvents

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

VOC Less H₂O & Exempt Solvents

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

VOC Less H₂O & Exempt Solvents

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

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

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

10.5. Incompatible materials

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:

May be harmful in contact with skin.

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

Eye Contact:

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

Ingestion:

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

Additional Information:

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

Toxicological Data

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

Acute Toxicity

Name	Route	Species	Value
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Overall product	Dermal		No data available; calculated ATE >2,000 - =5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >300 - =2,000 mg/kg
Mercaptan Polymer	Dermal	Rabbit	LD50 > 10,200 mg/kg
Mercaptan Polymer	Ingestion	Rat	LD50 2,600 mg/kg
Propylene oxide modified polyamine	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg
Propylene oxide modified polyamine	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
bis(Dimethylaminoethyl)ether	Dermal	Rabbit	LD50 311 mg/kg
bis(Dimethylaminoethyl)ether	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 3.4 mg/l
bis(Dimethylaminoethyl)ether	Inhalation-Vapor (4 hours)	Rat	LC50 > 2.2 mg/l
bis(Dimethylaminoethyl)ether	Ingestion	Rat	LD50 571 mg/kg
Triethylenetetramine	Dermal	Rabbit	LD50 550 mg/kg
Triethylenetetramine	Ingestion	Rat	LD50 2,500 mg/kg
1,8-DIAZABICYCLO[5.4.0]UNDEC-7-ENE	Dermal	Rabbit	LD50 1,233 mg/kg
1,8-DIAZABICYCLO[5.4.0]UNDEC-7-ENE	Ingestion	Rat	LD50 > 300, < 681 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	Rabbit	Mild irritant
Mercaptan Polymer	Rabbit	No significant irritation
bis(Dimethylaminoethyl)ether	Rabbit	Corrosive
Triethylenetetramine	Rabbit	Corrosive
1,8-DIAZABICYCLO[5.4.0]UNDEC-7-ENE	In vitro data	Corrosive

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	Rabbit	Mild irritant
Mercaptan Polymer	Rabbit	Mild irritant
Propylene oxide modified polyamine	Rabbit	Severe irritant
bis(Dimethylaminoethyl)ether	Rabbit	Corrosive
Triethylenetetramine	Rabbit	Corrosive
1,8-DIAZABICYCLO[5.4.0]UNDEC-7-ENE	similar health hazards	Corrosive

Skin Sensitization

Name	Species	Value
Mercaptan Polymer	Mouse	Sensitizing
Propylene oxide modified polyamine	Mouse	Sensitizing
bis(Dimethylaminoethyl)ether	Multiple animal species	Not classified
Triethylenetetramine	Guinea pig	Sensitizing

Respiratory Sensitization

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

Germ Cell Mutagenicity

Name	Route	Value

Mercaptan Polymer	In Vitro	Not mutagenic
Propylene oxide modified polyamine	In Vitro	Some positive data exist, but the data are not sufficient for classification
bis(Dimethylaminoethyl)ether	In Vitro	Not mutagenic
bis(Dimethylaminoethyl)ether	In vivo	Not mutagenic
1,8-DIAZABICYCLO[5.4.0]UNDEC-7-ENE	In Vitro	Not mutagenic

Carcinogenicity

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

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
Propylene oxide modified polyamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	prematuring into lactation
Propylene oxide modified polyamine	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	43 days
Propylene oxide modified polyamine	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	prematuring into lactation
bis(Dimethylaminoethyl)ether	Dermal	Not classified for development	Rabbit	NOAEL 12 mg/kg/day	during organogenesis
1,8-DIAZABICYCLO[5.4.0]UNDEC-7-ENE	Ingestion	Not classified for female reproduction	Rat	NOAEL 150 mg/kg/day	prematuring into lactation
1,8-DIAZABICYCLO[5.4.0]UNDEC-7-ENE	Ingestion	Not classified for male reproduction	Rat	NOAEL 150 mg/kg/day	29 days
1,8-DIAZABICYCLO[5.4.0]UNDEC-7-ENE	Ingestion	Not classified for development	Rat	NOAEL 150 mg/kg/day	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Propylene oxide modified polyamine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
bis(Dimethylaminoethyl)ether	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available	
1,8-DIAZABICYCLO[5.4.0]UNDEC-7-ENE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Mercaptan Polymer	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 75 mg/kg/day	90 days
Mercaptan Polymer	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 250 mg/kg/day	90 days
Mercaptan Polymer	Ingestion	endocrine system heart skin immune system nervous system eyes kidney and/or bladder respiratory system vascular system	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 days
Propylene oxide modified	Ingestion	kidney and/or	Some positive data exist, but the	Rat	NOAEL 300	43 days

polyamine		bladder	data are not sufficient for classification		mg/kg/day	
bis(Dimethylaminoethyl)ether	Dermal	skin heart endocrine system gastrointestinal tract hematopoietic system liver immune system muscles nervous system kidney and/or bladder respiratory system vascular system	Not classified	Rabbit	NOAEL 8 mg/kg/day	90 days
bis(Dimethylaminoethyl)ether	Inhalation	skin endocrine system eyes respiratory system heart hematopoietic system liver immune system nervous system kidney and/or bladder	Not classified	Rat	NOAEL 0.038 mg/l	14 weeks
bis(Dimethylaminoethyl)ether	Ingestion	gastrointestinal tract liver kidney and/or bladder respiratory system	Not classified	Rat	NOAEL 150 mg/kg/day	7 days
bis(Dimethylaminoethyl)ether	Ingestion	heart endocrine system hematopoietic system nervous system	Not classified	Rat	NOAEL 220 mg/kg/day	7 days
1,8-DIAZABICYCLO[5.4.0]UNDEC-7-ENE	Ingestion	heart skin endocrine system gastrointestinal tract bone, teeth, nails, and/or hair hematopoietic system liver immune system muscles nervous system eyes kidney and/or bladder respiratory system vascular system	Not classified	Rat	NOAEL 120 mg/kg/day	90 days

Aspiration Hazard

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

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

SECTION 12: Ecological information**Ecotoxicological information**

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

Chemical fate information

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

SECTION 13: Disposal considerations**13.1. Disposal methods**

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

Dispose of completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

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

SECTION 15: Regulatory information**15.1. US Federal Regulations**

Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:**Physical Hazards**

Not applicable

Health Hazards

Acute toxicity

Respiratory or Skin Sensitization

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

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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