



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

Scotch-Weld (TM) Thermoset Adhesive TE-031LV

Product Identification Numbers

FS-9100-3379-4

1.2. Recommended use and restrictions on use

Recommended use

Adhesive

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	3M France 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

Respiratory Sensitizer: Category 1.

Skin Sensitizer: Category 1.

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

2.2. Label elements

Signal word

Danger

Symbols

Health Hazard |

Pictograms



Hazard Statements

May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.

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

Precautionary Statements

Prevention:

Do not breathe dust/fume/gas/mist/vapors/spray.
In case of inadequate ventilation wear respiratory protection.
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 INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
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.
Get medical advice/attention if you feel unwell.

Disposal:

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

2.3. Hazards not otherwise classified

May cause thermal burns. Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI)	101-68-8	< 3 Trade Secret *
POLYURETHANE RESIN	Trade Secret*	> 97

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

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

Skin Contact:

Immediately flush skin with large amounts of cold water for at least 15 minutes. DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Cover affected area with a clean dressing. Get immediate medical attention.

Eye Contact:

Immediately flush eyes with large amounts of water for at least 15 minutes. DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Get immediate 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.

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. 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.

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. Collect as much of the spilled material as possible. Sweep up. 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. Dispose of collected material as soon as possible.

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

Avoid eye contact. Avoid skin contact with hot material. For industrial or professional use only. Do not use in a confined area with minimal air exchange. 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.

7.2. Conditions for safe storage including any incompatibilities

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
FREE ISOCYANATES	101-68-8	Manufacturer determined	TWA:0.005 ppm;STEL:0.02 ppm	
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI)	101-68-8	ACGIH	TWA:0.005 ppm	
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI)	101-68-8	OSHA	CEIL:0.2 mg/m ³ (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. Provide appropriate local exhaust when product is heated. Provide appropriate local exhaust ventilation for molten or extruded material.

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.

Thermal hazards

Wear heat insulating gloves when handling hot material to prevent thermal burns.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Solid
Specific Physical Form:	Waxy Solid
Odor, Color, Grade:	Polyester odor; Off-white
Odor threshold	No Data Available
pH	No Data Available
Melting point	No Data Available
Boiling Point	No Data Available
Flash Point	No flash point
Evaporation rate	Not Applicable
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	Not Applicable
Flammable Limits(UEL)	Not Applicable
Vapor Pressure	No Data Available
Vapor Density	No Data Available
Density	No Data Available
Specific Gravity	1.04 [Ref Std: WATER=1]
Solubility In Water	No Data Available
Solubility in Water	No Data Available
Solubility- non-water	No Data Available
Solubility- non-water	Nil
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	Not Applicable
Decomposition temperature	No Data Available
Viscosity	9,000 - 14,000 MPa-s [@ 121 °C]
Hazardous Air Pollutants	<=3 % weight
Volatile Organic Compounds	<=1 %
Percent volatile	1 % weight
VOC Less H2O & Exempt Solvents	No Data Available

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

Alcohols

Amines

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

Water

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified
Hydrogen Cyanide	Not Specified
Oxides of Nitrogen	Not Specified

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.

May cause additional health effects (see below).

Skin Contact:

During heating:

Thermal Burns: Signs/symptoms may include intense pain, redness and swelling, and tissue destruction.

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:

During heating:

Thermal Burns: Signs/symptoms may include severe pain, redness and swelling, and tissue destruction.

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:

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 > 50 mg/l
Overall product	Ingestion		No data available; calculated ATE > 5,000 mg/kg
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI)	Inhalation-Vapor		LC50 estimated to be 10 - 20 mg/l
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI)	Dermal	Rabbit	LD50 > 5,000 mg/kg
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.369 mg/l
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI)	Ingestion	Rat	LD50 31,600 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI)	official classification	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI)	official classification	Severe irritant

Skin Sensitization

Name	Species	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI)	official classification	Sensitizing

Respiratory Sensitization

Name	Species	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI)	Human	Sensitizing

Germ Cell Mutagenicity

Name	Route	Value
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI)	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
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P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI)	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
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Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (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
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (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
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (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.

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, utilize an acceptable permitted waste disposal facility. 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>
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI)	101-68-8	< 3
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI) (Benzene, 1,1'-methylenebis[4-isocyanato-)	101-68-8	< 3
P,P'-METHYLENEBIS(PHENYL ISOCYANATE) (MDI) (DIISOCYANATES (CERTAIN CHEMICALS ONLY))	101-68-8	< 3

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

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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