

# Safety Data Sheet

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Document Group:	32-6789-5	Version Number:	3.00
Issue Date:	12/11/17	Supercedes Date:	06/08/16

# **SECTION 1: Identification**

## 1.1. Product identifier

3M(TM) Scotch-Weld(TM) Threadlocker TL77, Red

**Product Identification Numbers** 62-3429-1060-1, 62-3429-1065-0, 62-3429-3960-0, 62-3429-5060-7, 62-3429-8360-8

# 1.2. Recommended use and restrictions on use

**Recommended use** Adhesive

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

**1.4. Emergency telephone number** 1-800-364-3577 or (651) 737-6501 (24 hours)

# **SECTION 2: Hazard identification**

## 2.1. Hazard classification

Serious Eye Damage/Irritation: Category 2A. Skin Corrosion/Irritation: Category 2. Skin Sensitizer: Category 1. Carcinogenicity: 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 Causes serious eye irritation. Causes skin irritation. May cause an allergic skin reaction. May cause cancer.

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

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% of the mixture consists of ingredients of unknown acute dermal toxicity.1% of the mixture consists of ingredients of unknown acute inhalation toxicity.

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

Ingredient	C.A.S. No.	% by Wt
Triethylene Glycol Dimethacrylate	109-16-0	30 - 60 Trade Secret *
Polyester Resin (NJTS Reg. No. 04499600-7087)	Trade Secret*	30 - 50 Trade Secret *
Hydroxypropyl Methacrylate	27813-02-1	1 - 10 Trade Secret *
Cumene Hydroperoxide	80-15-9	1 - 5 Trade Secret *
Saccharin	81-07-2	<= 2 Trade Secret *

Acrylic Acid	79-10-7	<= 1 Trade Secret *
1-Acetyl-2-Phenylhydrazine	114-83-0	<= 0.6 Trade Secret *
N,N-Dimethyl-p-Toluidine	99-97-8	<= 0.5 Trade Secret *

NJTS or NJTSRN: New Jersey Trade Secret Registry Number.

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

# **SECTION 4: First aid measures**

#### 4.1. Description of first aid measures

#### Inhalation:

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

#### **Skin Contact:**

Immediately 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 Carbon monoxide Carbon dioxide Oxides of Nitrogen Oxides of Sulfur

### **Condition**

During Combustion During Combustion 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

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. Avoid release to the environment. 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

Protect from sunlight. 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
Acrylic Acid	79-10-7	ACGIH	TWA:2 ppm	SKIN, A4: Not class. as
				human carcin
Cumene Hydroperoxide	80-15-9	AIHA	TWA:6 mg/m3(1 ppm)	SKIN
N,N-Dimethyl-p-Toluidine	99-97-8	AIHA	TWA:0.5 ppm	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

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

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

#### **8.2. Exposure controls**

## 8.2.1. Engineering controls

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

## 8.2.2. Personal protective equipment (PPE)

## **Eye/face protection**

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

maneet vented Goggies

## Skin/hand protection

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

### **Respiratory protection**

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

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

.1. Information on basic physical and chemical properties	
General Physical Form:	Liquid
Specific Physical Form:	Thixotropic Liquid
Odor, Color, Grade:	Mild odor, red liquid
Odor threshold	No Data Available
рН	Not Applicable
Melting point	Not Applicable
Boiling Point	>=300 °F [@ 760 mmHg]
Flash Point	>=212 °F [Test Method: Tagliabue Closed Cup]
Evaporation rate	Negligible
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Vapor Pressure	.01 mmHg [@ 20 °C]
Vapor Density	1.01 [ <i>Ref Std</i> :AIR=1]
Density	1.1 g/ml [@ 20 °C]
Specific Gravity	1.1 [@ 20 °C] [ <i>Ref Std</i> :WATER=1]
Solubility in Water	Negligible
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	3,000 - 7,500 centipoise [@ 20 °C ]
Hazardous Air Pollutants	<= 1 % weight [ <i>Test Method</i> :Calculated]
VOC Less H2O & Exempt Solvents	< 5 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 Light

### **10.5. Incompatible materials** Strong oxidizing agents

10.6. Hazardous decomposition products <u>Substance</u>

None known.

## **Condition**

Refer to section 5.2 for hazardous decomposition products during combustion.

# **SECTION 11: Toxicological information**

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

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

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

# Inhalation:

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

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.

May cause additional health effects (see below).

#### **Additional Health Effects:**

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

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

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.

### **Carcinogenicity:**

Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
N,N-Dimethyl-p-Toluidine	99-97-8	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	Dermal		No data available; calculated ATE >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 >5,000 mg/kg
Triethylene Glycol Dimethacrylate	Dermal	Professio nal judgeme nt	LD50 estimated to be > 5,000 mg/kg
Triethylene Glycol Dimethacrylate	Ingestion	Rat	LD50 10,837 mg/kg
Hydroxypropyl Methacrylate	Dermal	Rabbit	LD50 > 5,000 mg/kg
Hydroxypropyl Methacrylate	Ingestion	Rat	LD50 > 2,000 mg/kg
Saccharin	Dermal		LD50 estimated to be > 5,000 mg/kg
Saccharin	Ingestion	Mouse	LD50 17,000 mg/kg
Cumene Hydroperoxide	Dermal	Rat	LD50 500 mg/kg
Cumene Hydroperoxide	Inhalation- Vapor (4 hours)	Rat	LC50 1.4 mg/l
Cumene Hydroperoxide	Ingestion	Rat	LD50 382 mg/kg
Acrylic Acid	Dermal	Rabbit	LD50 > 2,000 mg/kg
Acrylic Acid	Inhalation- Dust/Mist (4 hours)	Rat	LC50 3.8 mg/l
Acrylic Acid	Ingestion	Rat	LD50 1,250 mg/kg
1-Acetyl-2-Phenylhydrazine	Dermal		LD50 estimated to be 200 - 1,000 mg/kg
1-Acetyl-2-Phenylhydrazine	Ingestion	Mouse	LD50 270 mg/kg
N,N-Dimethyl-p-Toluidine	Dermal	Rabbit	LD50 > 2,000 mg/kg
N,N-Dimethyl-p-Toluidine	Inhalation- Dust/Mist (4 hours)	Rat	LC50 1.4 mg/l
N,N-Dimethyl-p-Toluidine	Ingestion	Rat	LD50 1,650 mg/kg

ATE = acute toxicity estimate

# **Skin Corrosion/Irritation**

Name	Species	Value
Triethylene Glycol Dimethacrylate	Guinea pig	Mild irritant

Hydroxypropyl Methacrylate	Rabbit	Minimal irritation
Cumene Hydroperoxide	Rabbit	Corrosive
Acrylic Acid	Rabbit	Corrosive

### Serious Eye Damage/Irritation

Name	Species	Value
Triethylene Glycol Dimethacrylate	Professio	Moderate irritant
	nal	
	judgeme	
	nt	
Hydroxypropyl Methacrylate	Rabbit	Moderate irritant
Cumene Hydroperoxide	Rabbit	Corrosive
Acrylic Acid	Rabbit	Corrosive

## **Skin Sensitization**

Name	Species	Value
Triethylene Glycol Dimethacrylate	Human	Sensitizing
	and	
	animal	
Hydroxypropyl Methacrylate	Human	Sensitizing
	and	
	animal	
Acrylic Acid	Guinea	Not classified
	pig	

## **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
Triethylene Glycol Dimethacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Hydroxypropyl Methacrylate	In vivo	Not mutagenic
Hydroxypropyl Methacrylate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Cumene Hydroperoxide	In vivo	Not mutagenic
Cumene Hydroperoxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
Acrylic Acid	In vivo	Not mutagenic
Acrylic Acid	In Vitro	Some positive data exist, but the data are not sufficient for classification

# Carcinogenicity

Name	Route	Species	Value
Triethylene Glycol Dimethacrylate	Dermal	Mouse	Not carcinogenic
Hydroxypropyl Methacrylate	Inhalation	Multiple	Not carcinogenic
		animal	
		species	
Acrylic Acid	Ingestion	Rat	Not carcinogenic
Acrylic Acid	Dermal	Mouse	Some positive data exist, but the data are not
			sufficient for classification
N,N-Dimethyl-p-Toluidine	Ingestion	Multiple	Carcinogenic
		animal	
		species	

# **Reproductive Toxicity**

# **Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test Result	Exposure Duration
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Triethylene Glycol Dimethacrylate	Ingestion	Not classified for female reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
Triethylene Glycol Dimethacrylate	Ingestion	Not classified for male reproduction	Mouse	NOAEL 1 mg/kg/day	1 generation
Triethylene Glycol Dimethacrylate	Ingestion	Not classified for development	Mouse	NOAEL 1 mg/kg/day	1 generation
Hydroxypropyl Methacrylate	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Hydroxypropyl Methacrylate	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	49 days
Hydroxypropyl Methacrylate	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
Acrylic Acid	Ingestion	Not classified for female reproduction	Rat	NOAEL 460 mg/kg/day	2 generation
Acrylic Acid	Ingestion	Not classified for male reproduction	Rat	NOAEL 460 mg/kg/day	2 generation
Acrylic Acid	Inhalation	Not classified for development	Rat	NOAEL 1.1 mg/l	during organogenesi s
Acrylic Acid	Ingestion	Not classified for development	Rat	NOAEL 53 mg/kg/day	2 generation

# Target Organ(s)

# Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Hydroxypropyl Methacrylate	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Cumene Hydroperoxide	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	occupational exposure
Cumene Hydroperoxide	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	occupational exposure
Cumene Hydroperoxide	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professio nal judgeme nt	NOAEL Not available	
Acrylic Acid	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	

# Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Triethylene Glycol Dimethacrylate	Dermal	kidney and/or bladder   blood	Not classified	Mouse	NOAEL 833 mg/kg/day	78 weeks
Hydroxypropyl Methacrylate	Inhalation	blood	Not classified	Rat	NOAEL 0.5 mg/l	21 days
Hydroxypropyl Methacrylate	Ingestion	hematopoietic system   heart   endocrine system   liver   immune system   nervous system   kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	41 days
Cumene Hydroperoxide	Inhalation	nervous system   respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.2 mg/l	7 days
Cumene Hydroperoxide	Inhalation	heart   liver   kidney and/or bladder	Not classified	Rat	NOAEL 0.03 mg/l	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.

Incinerate uncured product in a permitted waste incineration facility. Dispose of completely cured (or polymerized) material in a permitted industrial waste 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.

## **EPCRA 311/312 Hazard Classifications:**

Physical Hazards
Not applicable

## Health Hazards

Carcinogenicity Serious eye damage or eye irritation

Skin Corrosion or Irritation

Specific target organ toxicity (single or repeated exposure)

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

Ingredient Saccharin

<u>C.A.S. No</u>	
81-07-2	

<u>% by Wt</u> Trade Secret <= 2

Cumene Hydroperoxide	80-15-9	Trade Secret 1 - 5
Acrylic Acid	79-10-7	Trade Secret <= 1

#### 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.

<b>Document Group:</b>	32-6789-5	Version Number:	3.00
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