



## Safety Data Sheet

Copyright,2019,3M Company.

All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

<b>Document group:</b>	11-4252-0	<b>Version number:</b>	7.00
<b>Issue Date:</b>	16/09/2019	<b>Supersedes date:</b>	25/10/2018

This Safety Data Sheet has been prepared in accordance with the South African National Standard SANS 10234:2008.

### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Scotch-Weld™ PUR Adhesive TE031

#### Product Identification Numbers

62-3886-5238-0

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

##### Recommended use

Adhesive

#### 1.3. Supplier's details

**Address:** 3M South Africa (Pty) Ltd, Private Bag X926, Rivonia 2128  
**Telephone:** 011 806 2000  
**E Mail:** Not available.  
**Website:** www.3m.co.za

#### 1.4. Emergency telephone number

011 806 2000

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

Skin Corrosion/Irritation: Category 3.

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:**

H316	Causes mild skin irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H372	Causes damage to organs through prolonged or repeated exposure: respiratory system

**PRECAUTIONARY STATEMENTS****Prevention:**

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P284A	In case of inadequate ventilation wear respiratory protection.
P280E	Wear protective gloves.

**Response:**

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

**Disposal:**

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.
------	--

**2.3. Other hazards**

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

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

This material is a mixture.

Ingredient	CAS Nbr	% by Wt
Polyurethane resin	Trade Secret	> 97
4,4'-methylenediphenyl diisocyanate	101-68-8	<= 3

**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.

**Hazardous Decomposition or By-Products**

**Substance**

Amine compounds.  
Isocyanates  
Carbon monoxide.  
Carbon dioxide.  
Hydrogen cyanide.  
Oxides of nitrogen.  
Toxic vapour, gas, particulate.

**Condition**

During combustion.  
During combustion.  
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.

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

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

Avoid skin contact with hot material. For industrial/occupational use only. Not for consumer sale or use. Do not breathe dust/fume/gas/mist/vapours/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. 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	CAS Nbr	Agency	Limit type	Additional comments
Free isocyanates	101-68-8	South Africa CLs	TWA(as NCO)(8 hours):0.02 mg/m <sup>3</sup> ;STEL(as NCO)(15 minutes):0.07 mg/m <sup>3</sup>	
4,4'-methylenediphenyl diisocyanate	101-68-8	ACGIH	TWA:0.005 ppm	
4,4'-methylenediphenyl diisocyanate	101-68-8	South Africa RELs	TWA(8 hours):0.02 mg/m <sup>3</sup> ;STEL(15 minutes):0.07 mg/m <sup>3</sup>	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

South Africa CLs : South Africa. Control Limits. Regulations for Hazardous Chemical Substances, Table 1

South Africa RELs : South Africa. Recommended Exposure Limits (RELs) Regulations for Hazardous Chemical Substances, Table 2

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/vapours/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.

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

Neoprene.

Nitrile 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 vapours 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

Physical state	Solid.
Colour	Off-White, White
Odor	Mild Odor
Odour threshold	<i>No data available.</i>
pH	<i>Not applicable.</i>
Melting point/Freezing point	<i>No data available.</i>
Boiling point/Initial boiling point/Boiling range	150 °C [ <i>Details:Conditions: @ 5mm Hg</i> ]
Flash point	>=93,9 °C
Evaporation rate	<i>No data available.</i>
Flammability (solid, gas)	Not classified
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Vapour pressure	<=0 Pa [ <i>@ 25 °C</i> ] [ <i>Details:MDI</i> ]
Vapour density	8,6 [ <i>Ref Std:AIR=1</i> ] [ <i>Details:MDI</i> ]
Density	1,04 g/cm <sup>3</sup>
Relative density	1,04 [ <i>Ref Std:WATER=1</i> ]
Water solubility	Nil
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	12 000 mPa-s [ <i>@ 121,1 °C</i> ]
Molecular weight	<i>No data available.</i>
VOC less H <sub>2</sub> O & exempt solvents	0 g/l [ <i>Test Method:calculated SCAQMD rule 443.1</i> ]
VOC less H <sub>2</sub> O & exempt solvents	0 % [ <i>Test Method:calculated SCAQMD rule 443.1</i> ]

## 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 polymerisation will not occur.

#### 10.4 Conditions to avoid

Heat.

#### 10.5 Incompatible materials

Amines.

Alcohols.

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

#### 10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

## SECTION 11: Toxicological information

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

#### 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 coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure.

#### Additional information:

**3M™ Scotch-Weld™ PUR Adhesive TE031**

Persons previously sensitised to isocyanates may develop a cross-sensitisation 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
4,4'-methylenediphenyl diisocyanate	Dermal	Rabbit	LD50 > 5 000 mg/kg
4,4'-methylenediphenyl diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0,368 mg/l
4,4'-methylenediphenyl diisocyanate	Ingestion	Rat	LD50 31 600 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
4,4'-methylenediphenyl diisocyanate	official classification	Irritant

**Serious Eye Damage/Irritation**

Name	Species	Value
4,4'-methylenediphenyl diisocyanate	official classification	Severe irritant

**Skin Sensitisation**

Name	Species	Value
4,4'-methylenediphenyl diisocyanate	official classification	Sensitising

**Respiratory Sensitisation**

Name	Species	Value
4,4'-methylenediphenyl diisocyanate	Human	Sensitising

**Germ Cell Mutagenicity**

Name	Route	Value
4,4'-methylenediphenyl diisocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification

**Carcinogenicity**

Name	Route	Species	Value
4,4'-methylenediphenyl diisocyanate	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification

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

Name	Route	Value	Species	Test result	Exposure Duration
------	-------	-------	---------	-------------	-------------------

**3M™ Scotch-Weld™ PUR Adhesive TE031**

4,4'-methylenediphenyl diisocyanate	Inhalation	Not classified for development	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
4,4'-methylenediphenyl diisocyanate	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
4,4'-methylenediphenyl diisocyanate	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**

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

**12.1. Toxicity****Acute aquatic hazard:**

Not acutely toxic to aquatic life by GHS criteria.

**Chronic aquatic hazard:**

Not chronically toxic to aquatic life by GHS criteria.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Polyurethane resin	Trade Secret		Data not available or insufficient for classification			
4,4'-methylenediphenyl diisocyanate	101-68-8	Green algae	Estimated	72 hours	EC50	>1 640 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Water flea	Estimated	24 hours	EC50	>1 000 mg/l
4,4'-methylenediphenyl diisocyanate	101-68-8	Zebra Fish	Estimated	96 hours	LC50	>1 000 mg/l



**3M™ Scotch-Weld™ PUR Adhesive TE031**

enyl diisocyanate						
4,4'-methylenediph enyl diisocyanate	101-68-8	Green algae	Estimated	72 hours	NOEC	1 640 mg/l
4,4'-methylenediph enyl diisocyanate	101-68-8	Water flea	Estimated	21 days	NOEC	10 mg/l

**12.2. Persistence and degradability**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Polyurethane resin	Trade Secret	Data not availbl- insufficient			N/A	
4,4'-methylenediph enyl diisocyanate	101-68-8	Estimated Hydrolysis		Hydrolytic half-life	20 hours (t 1/2)	Other methods

**12.3 : Bioaccumulative potential**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Polyurethane resin	Trade Secret	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4,4'-methylenediph enyl diisocyanate	101-68-8	Experimental BCF-Carp	28 days	Bioaccumulation factor	200	OECD 305E - Bioaccumulation flow-through fish test

**12.4. Mobility in soil**

Please contact manufacturer for more details

**12.5 Other adverse effects**

No information available.

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

Product must only be disposed of by an authorized/permitted waste disposal contractor or incinerated in an industrial or commercial facility in the presence of a combustible material.

**SECTION 14: Transport Information**

Compliance is required to South African Transport Information Road Traffic Act & Regulations and Railroad regulations, IATA Standards for airfreight and Maritime standards for ocean freight.

**SECTION 15: Regulatory information**

### **15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

#### **Global inventory status**

Contact 3M for more information. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. 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.

## **SECTION 16: Other information**

#### **Revision information:**

Section 5: Hazardous combustion products table information was modified.

Section 7: Precautions safe handling information information was modified.

Section 8: Eye/face protection information information was modified.

Section 09: Color information was added.

Section 09: Odor information was added.

Sections 3 and 9: Odour, colour, grade information information was deleted.

Section 15: Regulations - Inventories information was modified.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

**3M South Africa SDSs are available at [www.3m.co.za](http://www.3m.co.za)**