



## Safety Data Sheet

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### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Plastic Bonding Adhesive 2665

#### Product Identification Numbers

62-2665-3030-2, 62-2665-3035-1, 62-2665-5230-6, 62-2665-5235-5, 70-0075-0678-8, 70-0710-4799-0, 70-0710-4800-6, XA-0067-3244-1  
7010365923, 7000002166, 7100111530, 7010412525

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

##### Recommended use

Adhesive, curing hot melt adhesive

#### 1.3. Supplier's details

<b>MANUFACTURER:</b>	3M
<b>DIVISION:</b>	Electronics Materials Solutions Division
<b>ADDRESS:</b>	3M Center, St. Paul, MN 55144-1000, USA
<b>Telephone:</b>	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.

#### Supplemental Information:

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
polyurethane prepolymer	Trade Secret*	97 - 100
p,p'-methylenebis(phenyl isocyanate) (mdi)	101-68-8	<= 3 Trade Secret *
diphenylmethane-2,4'-diisocyanate	5873-54-1	< 0.5 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 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**

Allergic respiratory reaction (difficulty breathing, wheezing, cough, and tightness of chest). Allergic skin reaction (redness, swelling, blistering, and itching). Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

**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

**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.

**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

For industrial/occupational use only. Not for consumer sale or use. 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. 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
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 <sup>3</sup> (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.

#### 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:

Full Face Shield

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. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

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

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 – Butyl rubber  
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.

### Thermal hazards

Wear heat insulating gloves, indirect vented goggles, and a full face shield when handling hot material to prevent thermal burns.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

Physical state

Solid

Color

White

**Specific Physical Form:**

Waxy Solid

**Odor**

Mild Odor

**Odor threshold**

*No Data Available*

**pH**

*Not Applicable*

**Melting point**

*No Data Available*

**Boiling Point**

302 °F [*Details:CONDITIONS: @ 5mm Hg (MDI)*]

**Flash Point**

>=390 °F

**Evaporation rate**

*No Data Available*

**Flammability (solid, gas)**

Not Classified

**Flammable Limits(LEL)**

*Not Applicable*

**Flammable Limits(UEL)**

*Not Applicable*

**Vapor Pressure**

0.0003 mmHg [*@ 25 °C*] [*Details:(MDI)*]

**Vapor Density**

8.6 [*Ref Std:AIR=1*]

**Density**

1.18 g/cm3 [*Details:solid; liquid = 1.08*]

**Specific Gravity**

1.18 [*Ref Std:WATER=1*] [*Details:CONDITIONS: SOLID. LIQUID=1.08*]

**Solubility in Water**

Nil [*Details:CONDITIONS: Reacts*]

**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**

4,500 centipoise

**Molecular weight**

*No Data Available*

**Volatile Organic Compounds**

<=1 g/l

**Percent volatile**

<=3 % weight

**VOC Less H2O & Exempt Solvents**

<=1 g/l

## 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

Amines

Alcohols

Water

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 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:

May be harmful if swallowed.

Physical Blockage: Signs/symptoms may include cramping, abdominal pain, and constipation.

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 >2,000 - =5,000 mg/kg
polyurethane prepolymer	Dermal		LD50 estimated to be > 5,000 mg/kg
polyurethane prepolymer	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
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 0.368 mg/l
p,p'-methylenebis(phenyl isocyanate) (mdi)	Ingestion	Rat	LD50 31,600 mg/kg
diphenylmethane-2,4'-diisocyanate	Dermal	Rabbit	LD50 > 5,000 mg/kg
diphenylmethane-2,4'-diisocyanate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
diphenylmethane-2,4'-diisocyanate	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
diphenylmethane-2,4'-diisocyanate	official classification	Irritant

**Serious Eye Damage/Irritation**

Name	Species	Value
p,p'-methylenebis(phenyl isocyanate) (mdi)	official classification	Severe irritant
diphenylmethane-2,4'-diisocyanate	official classification	Severe irritant

**Skin Sensitization**

Name	Species	Value
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p,p'-methylenebis(phenyl isocyanate) (mdi)	official classification	Sensitizing
diphenylmethane-2,4'-diisocyanate	official classification	Sensitizing

**Respiratory Sensitization**

Name	Species	Value
p,p'-methylenebis(phenyl isocyanate) (mdi)	Human	Sensitizing
diphenylmethane-2,4'-diisocyanate	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
diphenylmethane-2,4'-diisocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification

**Carcinogenicity**

Name	Route	Species	Value
p,p'-methylenebis(phenyl isocyanate) (mdi)	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
diphenylmethane-2,4'-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
p,p'-methylenebis(phenyl isocyanate) (mdi)	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
diphenylmethane-2,4'-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
p,p'-methylenebis(phenyl isocyanate) (mdi)	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
diphenylmethane-2,4'-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
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
diphenylmethane-2,4'-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**

**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

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):**

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
p,p'-methylenebis(phenyl isocyanate) (mdi)	101-68-8	Trade Secret <= 3
p,p'-methylenebis(phenyl isocyanate) (mdi) (Benzene,	101-68-8	Trade Secret <= 3

1,1'-methylenebis[4-isocyanato-  
p,p'-methylenebis(phenyl isocyanate) (mdi)  
(DIISOCYANATES (CERTAIN CHEMICALS  
ONLY))

101-68-8

Trade Secret &lt;= 3

## 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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