

# Franklin International

## MATERIAL SAFETY DATA SHEET

MSDS Name: Titebond Polyurethane Glue

MSDS Number: 2303

Revision Date: 7/25/07

**SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Product Name: Titebond Polyurethane Glue  
 CAS Number: none  
 HMIS Hazard Rating: Health: 2 Fire: 1 Reactivity: 0

Company Identification: Franklin International  
 2020 Bruck Street  
 Columbus OH 43207

Contact: Franklin Technical Services  
 Telephone/Fax: (800) 877-4583 (614) 445-1493  
 Emergency Phone (24 Hour): Franklin Security  
 (614) 445-1300  
 Chemtrec (24 Hour): (800) 424-9300  
 Chemtrec International: (703) 527-3887

Product Class: urethane  
 Product Use: adhesive  
 Product Code: 3810

Division: Construction Adhesives &amp; Sealants

**SECTION 2 - COMPOSITION AND INFORMATION ON INGREDIENTS**

Hazardous Ingredients	CAS Number	Percent
4,4'-diphenylmethane diisocyanate	101-68-8	20.70

OSHA PELs &amp; ACGIH TLVs are listed in Section 8 where applicable.

**SECTION 3 - HAZARD IDENTIFICATION****NOTE:**

This product reacts with water, releasing carbon dioxide.

**EMERGENCY OVERVIEW:**

**WARNING: EYE AND SKIN IRRITANT. POTENTIAL SKIN AND RESPIRATORY SENSITIZER.** Contains isocyanate containing polymers. KEEP OUT OF REACH OF CHILDREN. In the case of a spill: evacuate and ventilate the spill area, wear full protective equipment including respiratory equipment during clean-up.

ROUTES OF ENTRY:

Ingestion: Yes  
Inhalation: Yes  
Skin: Yes  
Eye: Yes

INHALATION:

At room temperature, vapors are minimal due to low vapor pressure. In some individuals an allergic reaction may occur. May cause respiratory sensitization in susceptible individuals. MDI concentrations below exposure guidelines may cause allergic reactions in individuals already sensitized. Symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Effects may be delayed. Impaired lung function (decreased ventilation capacity) has been associated with overexposure to isocyanates.

INGESTION:

No hazard expected in normal industrial use. Ingestion is not a likely route of exposure.

SKIN:

Prolonged or repeated exposure may cause skin irritation. Skin contact may result in allergic skin reactions or respiratory sensitization but is not expected to result in absorption of amounts sufficient to cause other adverse effects. Material may stick to skin causing irritation upon removal. May stain skin.

EYE:

May cause slight eye irritation. Corneal injury is unlikely.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

Respiratory conditions such as asthma.

CARCINOGENICITY:

IARC: No  
NTP: No  
OSHA: No  
ACGIH: No

REPRODUCTIVE TOXICITY:

In laboratory animals, MDI/polymeric MDI do not produce birth defects; other fetal effects occurred only at doses which were toxic to the mother.

TARGET ORGANS:

Eyes, skin, and respiratory tract.

SECTION 4 - FIRST AID MEASURES

INHALATION:

Remove to fresh air. If not breathing give mouth to mouth resuscitation. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

INGESTION:

If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

SKIN:

Wash off with flowing water or shower. Contact physician if persistent irritation occurs.

EYE:

Irrigate with flowing water immediately and continuously for 15 minutes. Consult medical personnel. Material containing MDI may react with moisture of the eye forming thick material which may be difficult to wash from the eye.

SECTION 5 - FIRE-FIGHTING MEASURES

Flammability Class (OSHA)	IIIB
Flash Point:	> 200F Setaflash
Explosive Range:	Not Applicable

EXTINGUISHING MEDIA:

Carbon dioxide, dry chemical, or foam. For large scale fires, alcohol resistant foams are preferred if available. Water may be used as a blanket for fire extinguishment. If water is used, it should be used in a very large quantity. The reaction between water and isocyanate may be vigorous. If possible, contain fire run off water.

HAZARDOUS COMBUSTION PRODUCTS:

When burning, product will release carbon monoxide, carbon dioxide, nitrogen oxide fumes, and isocyanate vapors.

FIRE FIGHTING PROCEDURES:

Fire fighters should use positive pressure self-contained breathing apparatus and full protective clothing. Down-wind personnel must be evacuated.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

CONTAINMENT TECHNIQUES:

Use inert absorbent to dike the spill. Keep away from drains.

CLEAN-UP:

Major spill: Evacuate and ventilate spill area, wear full protective equipment including respiratory equipment during clean up. If temporary control of isocyanate vapor is required, a blanket of protein foam may be placed over the spill. Large quantities may be pumped into a closed but not sealed containers for disposal. Do not make pressure tight. Transport to a well-ventilated area (outside) and treat with neutralizing solution consisting of a mixture of water and 3-8% concentrated ammonium hydroxide or 5-10% sodium carbonate. Add about 10 parts of neutralizer per part of isocyanate with mixing. Allow to stand for 48 hours letting evolved carbon dioxide to escape. Decontaminate floor using water/ammonia solution with 1-2% detergent letting stand over effected area for at least 10 minutes. Cover mops and brooms used for this with plastic and dispose of properly (often by incineration).

EMERGENCY MEASURES:

Isolate hazard area. Keep unnecessary and unprotected personnel from entering area. Wear all appropriate personal protection equipment (PPE) (see Section 8).

SECTION 7 - HANDLING AND STORAGE

HANDLING:

In accordance with good manufacturing practices, good ventilation of the processing area is recommended. Gloves are recommended as product is difficult to remove from effected areas if contact with skin occurs.

STORAGE:

Store in tightly closed containers to protect from atmospheric moisture. Replace outage with inert nitrogen. Store at temperature of 75F to 105F.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Occupational Exposure Limits

	ACGIH TLV	ACGIH TLV-C	ACGIH STEL	OSHA STEL	OSHA PEL
4,4'-diphenylmethane diisocyanate	N/est	N/est	N/est	N/est	N/est

The ACGIH TLV for 4,4'-diphenylmethane diisocyanate is .005 ppm. The OSHA Ceiling for 4,4'-diphenylmethane diisocyanate is .02 ppm.

ENGINEERING CONTROLS:

Use local exhaust as needed to maintain occupational exposure limits.

RESPIRATORY PROTECTION:

Atmospheric levels should be maintained below the exposure guidelines. For emergency and other conditions where an exposure guidelines may be exceeded, use an approved positive-pressure self contained breathing apparatus or supplied air respirator with an auxiliary self-contained air supply.

EYE PROTECTION:

Chemical splash goggles (ANSI Z87.1 or approved equivalent).

SKIN PROTECTION:

Use impervious materials made of butyl or nitrile rubber where skin contact may occur.

GENERAL:

Safety shower and eye wash station.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Form:	LIQUID
Appearance/Color:	BROWN
Odor:	MILD
Solubility (in water):	NIL

pH Value: Not Applicable  
Boiling Range/Point: NOT APPLICABLE  
Evaporation Rate: NOT APPLICABLE  
  
% Volatile: Not Applicable  
Specific Gravity: 1.15  
VOC: NOT APPLICABLE

SECTION 10 - STABILITY AND REACTIVITY

Stability: This product is stable  
Hazardous Polymerization: Hazardous polymerization will not occur

CONDITIONS TO AVOID:

Avoid prolonged heating over 160F (71C) or storage below 75F (24C).  
Stable when stored under normal conditions. Decomposition begins at 350F (177C).

INCOMPATIBILITY:

Water, acids, bases, alcohols, metal compounds, and surface active materials. Avoid water as it reacts to generate heat, CO2, and insoluble urea. Some reactions may be vigorous.

HAZARDOUS DECOMPOSITION PRODUCTS:

Excessive heating can produce isocyanate vapor, mist and other hazardous organic compounds.  
Decomposition may occur with incompatible reactants, especially strong bases, water or temperatures over 320F (160C).

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute and chronic health effects are not expected as long as good industrial hygiene and safety precautions are followed.

SECTION 12 - ECOLOGICAL INFORMATION

This formulation has not been tested for environmental effects.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

Disposal of this product must comply with all applicable federal, state and local regulations.

CONTAINER DISPOSAL:

Disposal of this container should comply with all applicable federal, state and local regulations.

SECTION 14 - TRANSPORT INFORMATION

UN Number NONE  
UN Pack Group N/A  
UN Class NONHAZ

ICAO/IATA Class	NON HAZARDOUS
IMDG Class	NON HAZARDOUS
Shipping Name	NON HAZARDOUS

Packaging may not be approved for shipping by air. Please contact Franklin International for further information.

SECTION 15 - REGULATORY INFORMATION

SARA TITLE III SECTION 313:

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 and of 40 CFR 372:

Chemical Name	CAS Number	Percent
4,4'-diphenylmethane diisocyanate	101-68-8	20.70

TSCA (Toxic Substances Control Act Inventory):

All components of this product are listed on the TSCA inventory except as exempted.

PENNSYLVANIA:

Hazardous component required to be listed at 1% or greater:

4,4'-diphenylmethane diisocyanate 101-68-8

Non-hazardous components required to be listed at 3% or greater:

reacted urethane prepolymer, mixture

NEW JERSEY:

reacted urethane prepolymer, mixture

4,4'-diphenylmethane diisocyanate, 101-68-8

SECTION 16 - OTHER INFORMATION

DISCLAIMER:

While the information and recommendations set forth herein are believed to be accurate as of the data hereof, Franklin International makes no warranty, express or implied, with respect thereto and disclaims all liability from reliance thereon.