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Material Safety Data Sheet

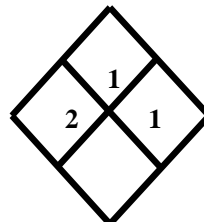
MSDS No: 8080

**1. PRODUCT IDENTIFICATION**

Trade Name: EVER-LOCK® 2U532

Chemical Family: Polyurethane

Intended Use: Hot melt adhesive



NFPA RATING

Health:	2*
Flammability:	1
Reactivity:	1
Personal Protection:	

HMIS RATING

**2. COMPOSITION / INFORMATION ON INGREDIENTS**

O S H A	CAS No.	CHEMICAL IDENTITY	EXPOSURE LIMITS				CARCINOGEN STATUS			
			ACGIH		OSHA		MFR.	IARC	NTP	OSHA
			TWA	STEL	PEL	STEL				
*	101-68-8	4,4'-Methylenediphenyl Diisocyanate Common Name: Diphenylmethane Diisocyanate (MDI) Concentration: 1.00 - 2.00 % by wt	0.005 ppm	NE	0.02 ppm	NE	NE	NR	NR	NR
	Proprietary Concentration	Polyurethane 98.00 - 99.00 % by wt	NE	NE	NE	NE	NE	NR	NR	NR

NE = Not Established NR = Not Reviewed \* = OSHA Hazardous Ingredient

Reference Notes: Refer to Section 8, Subheading "Exposure Guidelines", for additional information concerning exposure limits.

**3. HAZARDS IDENTIFICATION**

**Emergency Overview:** Appearance: Green Solid at room temperature. Slightly Resinous odor.

Vapors may irritate eyes, nose, throat, and skin. Inhalation may cause an allergic respiratory reaction. Contact may cause skin sensitization, an allergic reaction which becomes evident on re-exposure to this material.

**Route(s) of Entry:** Inhalation of vapors and fumes, and skin contact.

**Acute Exposure:** INHALATION: Harmful if inhaled. Inhalation of vapor or aerosol may cause irritation to the respiratory tract (nose, throat, and lungs). Inhalation may cause asthma-like symptoms, including coughing, wheezing, tightness of chest,

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shortness of breath, headache and reduced lung function. Persons with preexisting, non-specific bronchial hyperreactivity can respond to concentrations below the Threshold Limit Value (TLV) with similar symptoms as well as asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasms and pulmonary edema (fluid in the lungs). These effects are usually reversible. Chemical hypersensitivity pneumonitis, with flu-like symptoms (i.e. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure.

**SKIN:** Contact may cause skin irritation. Contact may cause skin sensitization, an allergic reaction which becomes evident on re-exposure to this material. Contact with this material in a molten (heated) state may cause severe burns.

**EYES:** Direct contact with this material causes eye irritation. High vapor concentrations may be irritating.

**INGESTION:** Ingestion is not an anticipated route of exposure for this material in industrial use.

**Chronic Exposure:** Chronic overexposure to isocyanate has been reported to cause lung damage, including decrease in lung function, which may be permanent. Prolonged or repeated exposure may cause respiratory sensitization, an allergic reaction that becomes evident on re-exposure to this material.

**Carcinogenicity:** This material does not contain 0.1% or more of any chemical listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or regulated by the Occupational Safety and Health Administration (OSHA) as a carcinogen.

#### **4. FIRST AID MEASURES**

**Eye Contact:** Immediately flush eyes with large quantities of clean water for at least 15 minutes. Get immediate medical attention.

**Skin Contact:** Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

**BURNS:** For contact with hot material, immediately immerse the exposed skin area in large amounts of cold water (or flush the skin area with cold water) to dissipate heat. Do not remove material from skin and do not remove clothing. Cover affected area with clean sheeting or gauze. **IMMEDIATELY SEEK MEDICAL ATTENTION.**

**Ingestion:** Do not induce vomiting. Give the victim one or two glasses of water or milk to drink. Never give anything by mouth to an unconscious person. Seek medical attention.

**Inhalation:** Remove victim to fresh air. Keep warm and quiet. If not breathing, give artificial respiration. If breathing is difficult, give oxygen by trained personnel. **GET IMMEDIATE MEDICAL ATTENTION.**

#### **5. FIRE FIGHTING MEASURES**

<b>Flash Point:</b>	> 350° F (> 177 ° C)
<b>Flash Point Method Used:</b>	SetaFlash Closed Cup
<b>Flammable Limits in Air (Lower):</b>	Not available
<b>Flammable Limits in Air (Upper):</b>	Not available
<b>Autoignition:</b>	464° F (240 ° C) 4,4'-Diphenylmethane Diisocyanate

**General Hazards:** Containers of this material may build up pressure if exposed to heat (fire). See information in Fire Fighting Instructions (below) in this section.

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**Fire Fighting Extinguishing Media:** Use alcohol foam, dry chemical, carbon dioxide or any Class B fire extinguishing agent. Water may be unsuitable in extinguishing a fire with this material. However, water may be used to cool and prevent the rupture of containers that are exposed to the heat of a fire.

**Fire Fighting Equipment:** Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use.

**Fire Fighting Instructions:** Evacuate all persons from the fire area to an explosion-protected location. Move non-burning material, as feasible, to a safe location as soon as possible. Fire fighters should be protected from potential explosion hazard while extinguishing the blaze. Containers of this material may build up pressure if exposed to heat (fire). Use water spray to cool fire-exposed containers. If water is used for fire fighting, use a generous amount. The reaction between this material and water may be vigorous. Excess water limits the hazard of this reaction.

**Fire and Explosion Hazards:** Closed containers may rupture when exposed to extreme heat. Contact of this material with water releases carbon dioxide (a gas). Do NOT reseal containers that have been contaminated with water. Carbon dioxide may increase the pressure in closed containers of wet material and cause a rupture or explosion.

**Hazardous Combustion Products:** Combustion may produce isocyanate vapors. Combustion may produce carbon monoxide, carbon dioxide and irritating or toxic vapors and gases.

## **6. ACCIDENTAL RELEASE MEASURES**

**Accidental Release Measures:** Vacuum or sweep up the material and place it in a chemical waste container.

**FOR SMALL SPILLS:** If the material is molten (hot), allow it to cool and solidify, scrape it up, and place it in a chemical waste container. Decontaminate with a 5% ammonia solution.

**LARGE SPILL:** Persons not wearing protective equipment (see Section 8) should be excluded from the area of the spill until clean-up has been completed. Ventilate the area to decrease the airborne concentration of vapors or gases. Contain and absorb large spills of hot material with inert material (e.g., dry sand or earth), then place in a chemical waste container. Prevent spilled material from 1) contaminating soil, 2) entering sanitary sewers, storm sewers, and drainage systems, and 3) entering bodies of water or ditches that lead to waterways. Immediately notify authorities of any reportable spill as may be required pursuant to regulations.

## **7. HANDLING AND STORAGE**

**Signal Word:** W A R N I N G

**Handling Information:** Avoid inhalation and contact with eyes, skin, and clothing. Wash hands thoroughly after handling and before eating or drinking. Remove and wash contaminated clothing before reuse. Use with adequate ventilation. Avoid breathing vapor or fumes. Do not allow water to contact the material. It may react violently with water. Do not use this material if it is wetted or mixed with water. Water will boil at glue-pot temperatures and cause dangerous spattering of molten material.

Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner or properly disposed.

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**Storage Information:** Store in a cool, well ventilated space away from incompatible materials. Keep container closed when not in use. Keep contents away from moisture. Due to reaction with water, producing carbon dioxide gas, a hazardous build-up of pressure could result if contaminated containers are re-sealed.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Guidelines:** The Occupational Safety and Health Administration (OSHA), has established for 4,4'-Diphenylmethane Diisocyanate (MDI), a Permissible Exposure Limit (PEL) of 0.02 ppm ceiling, not to be exceeded at any time. The American Conference of Governmental Industrial Hygenists (ACGIH) have established, for 4,4'-Diphenylmethane Diisocyanate, a Threshold Limit Value (TLV) of 0.005 ppm Time Weighted Average (TWA) for an 8-hour workday and a 40-hour work week.

**Engineering Controls:** Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne concentrations below regulatory and recommended occupational exposure limits. See occupational exposure limits in Section 2 and under Exposure Guidelines in Section 8.

**Eye Protection:** Wear 1) safety glasses with side shields and a faceshield or 2) goggles and a faceshield. Facilities storing or utilizing this material should be equipped with an eyewash station and safety shower.

**Skin Protection:** Wear chemical resistant gloves such as butyl rubber or nitrile rubber. If splashing is likely, wear impervious clothing and boots to prevent repeated or prolonged skin contact. Consult your supplier of personal protective equipment for additional instructions on proper usage.

**Respiratory Protection:** If airborne concentrations exceed or are expected to exceed the TLV: Wear a NIOSH/MSHA-approved (or equivalent) full-facepiece air-supplied respirator in the positive pressure mode with emergency escape provisions. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Color:</b>	Blue
<b>Odor:</b>	Slight resinous
<b>Odor Threshold:</b>	Not available
<b>Physical State:</b>	Solid
<b>Solubility in Water:</b>	Insoluble
<b>Viscosity:</b>	12000 cps at 120°C (248 °F)
<b>Vapor Pressure:</b>	Not available
<b>Specific Gravity:</b>	1.2 (Water = 1) at 26°C (79 °F)
<b>Boiling Point:</b>	> 300° F (> 149 ° C)
<b>Melting Point:</b>	70°C (158 °F)
<b>Freezing Point:</b>	Not available
<b>Evaporation Rate:</b>	Non-volatile
<b>Vapor Density:</b>	Not available
<b>% Volatile:</b>	Negligible
<b>pH:</b>	Not applicable
<b>Coefficient of water/oil:</b>	Not available

## 10. STABILITY AND REACTIVITY

**Stability:** Stable at normal temperatures and storage conditions. See Section 7 for storage information.

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**Incompatibility:** Avoid contact with water, amines, and alcohols.

**Hazardous Decomposition Products:** Thermal decomposition may produce various hydrocarbons and irritating, acrid vapors.

**Hazardous Polymerization:** May occur. Contact with moisture, other materials which react with isocyanates, or temperatures above 400 F (204 C), may cause polymerization.

**Conditions to Avoid:** Temperatures above ambient. Freezing temperatures (less than 32°F or 0°C). Contact with water.

## **11. TOXICOLOGICAL INFORMATION**

**Acute Eye Toxicity:** Diphenylmethane diisocyanate: 100 mg/24 hr (rabbit) moderate reaction.

**Acute Skin Toxicity:** No information is available.

**Acute Inhalation Toxicity:** Diphenylmethane diisocyanate: inhalation LC50 (rat), 178 mg/m<sup>3</sup> /4 hr.

**Acute Oral Toxicity:** Diphenylmethane diisocyanate: oral LD50 (rat), >4.7 g / kg.; (mouse) 2.2 g / kg.

**Chronic/Carcinogenicity:** This material does not contain 0.1% or more of any chemical listed by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or regulated by the United States Occupational Safety and Health Administration (OSHA) as a carcinogen.

Chronic overexposure to isocyanates has been reported to cause lung damage, including decrease in lung function, which may be permanent.

**Sensitization:** MDI has been shown to produce dermal sensitization in laboratory animals. Evidence of respiratory sensitization has also been observed in guinea pigs. In addition, there is some evidence suggestive of cross-sensitization between different types of diisocyanates. Animal studies have shown that respiratory sensitization can be induced by skin contact with known respiratory sensitizers, including diisocyanates.

## **12. ECOLOGICAL INFORMATION**

**Ecotoxicity:** No data is available for this product.

**Environmental Fate:** No data is available for this product.

## **13. DISPOSAL CONSIDERATIONS**

**Waste Disposal Method:** Not a RCRA hazardous waste. Disposal of this material is not regulated under RCRA. Consult federal, state and local regulations to ensure that this material and its containers, if discarded, is disposed of in compliance with all regulatory requirements. "Empty containers", as defined under 40 CFR 261.7 or other applicable state or provincial regulations or transportation regulations, are not classified as hazardous wastes.

**RCRA Hazard Class:** NOT A RCRA HAZARDOUS WASTE: When discarded in its purchased form, this material would not be regulated as a RCRA Hazardous waste under 40 CFR 261.

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**14. TRANSPORT INFORMATION****DOT / IATA / IMDG / TDG: Bulk and Non-Bulk****Proper Shipping Name:**

NOT REGULATED

**15. REGULATORY INFORMATION****Occupational Safety and Health Act (OSHA):** This material is classified as a hazardous chemical under the criteria of the US Occupational Safety and Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200.**SARA Title III: Section 304 - CERCLA:** Methylene diphenyl diisocyanate (CAS# 101-68-8): Reportable Quantity = 5000 lbs.**SARA Title III: Section 311/312 - Hazard Communication Standard (HCS):** This material is classified as an IMMEDIATE HEALTH HAZARD, DELAYED HEALTH HAZARD, and REACTIVITY HAZARD under the US Superfund Amendment and Reauthorization Act (Section 311/312).**SARA Title III: Section 313 Toxic Chemical List (TCL):** Diphenylmethane Diisocyanate (101-68-8)**TSCA Section 8(b) - Inventory Status:** All components of this material are listed on or are exempt from the US Toxic Substances Control Act (TSCA) inventory.**TSCA Section 12(b) - Export Notification:** This material does not contain any components that are subject to the US Toxic Substances Control Act (TSCA) Section 12(b) Export Notification requirements.**Canadian Inventory Status:** This material contains components that are NOT listed on the Canadian Domestic Substances List (DSL) or the Canadian Non-Domestic Substances List (NDSL).**Canadian WHMIS:** This material is classified by the Canadian Workplace Hazardous Material Information System as: D2A (materials causing other toxic effects, very toxic material) D2B (materials causing other toxic effects, toxic material) D1A (materials causing immediate and serious toxic effects, very toxic material)**California Proposition 65:** This product is not known to contain any chemicals listed by the State of California (Safe Drinking Water and Toxic Enforcement Act of 1986) to cause cancer or reproductive toxicity.**Additional Canadian Regulatory Information:** This product contains the following chemical(s) listed on the WHMIS Ingredient Disclosure List at or above the specified concentration limit: Diphenylmethane Diisocyanate (CAS# 101-68-8)**16. OTHER INFORMATION**

<b>MSDS No:</b>	8080
<b>Reason Issued:</b>	Color Change
<b>Prepared By:</b>	Product Safety and Compliance Department
<b>Approved By:</b>	
<b>Title:</b>	
<b>Supersedes Date:</b>	05/07/08

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