Revision Number: 003.0

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name: **MACROPLAST UR-8331**
Product type: Polyurethane adhesive
Restriction of Use: This product is for industrial use only.
Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

IDH number: 1162784

Region: United States
Contact information:
Telephone: (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	
DANGER:	CAUSES SKIN IRRITATION. MAY CAUSE AN ALLERGIC SKIN REACTION. CAUSES SERIOUS EYE IRRITATION. TOXIC IF INHALED. MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED. CAUSES DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE.

HAZARD CLASS	HAZARD CATEGORY
ACUTE TOXICITY INHALATION	3
SKIN IRRITATION	2
EYE IRRITATION	2A
RESPIRATORY SENSITIZATION	1
SKIN SENSITIZATION	1
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	1

PICTOGRAM(S)



Precautionary Statements

Prevention: Do not breathe vapors, mist, or spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear eye and face protection. Wear protective gloves. In case of inadequate ventilation wear respiratory protection.

Response: IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Call a poison control center or physician. If skin irritation or rash occurs: Get medical attention. If eye irritation persists: Get medical attention. If experiencing respiratory symptoms: Call a poison center or physician. Take off contaminated clothing.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal: Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Polyurethane prepolymer	Proprietary	60 - 100
Methylenebis(phenylisocyanate)	101-68-8	5 - 10
Methylene bisphenyl isocyanate	26447-40-5	0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Skin contact: Immediately flush skin with plenty of water (using soap, if available). Immediately remove soiled or soaked clothing. Get medical attention.

Eye contact: Check for and remove any contact lenses. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Ingestion: If material is ingested, immediately contact a physician or poison control center. Keep individual calm. DO NOT induce vomiting unless directed to do so by medical personnel.

Symptoms: See Section 11.

Notes to physician: Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates.

5. FIRE FIGHTING MEASURES

Extinguishing media: Use extinguishing measures appropriate to local circumstances and the surrounding environment. Water spray (fog), foam, dry chemical or carbon dioxide.

Special firefighting procedures: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. Keep unnecessary personnel away.

Unusual fire or explosion hazards: Sealed containers at elevated temperatures or contaminated with water may rupture explosively. In case of fire, keep containers cool with water spray.

Hazardous combustion products: Irritating and toxic gases or fumes may be released during a fire. Isocyanate vapors. Oxides of carbon. Hydrogen cyanide.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not empty into drains / surface water / ground water. Follow all local, state, federal and provincial regulations for disposal.

Clean-up methods:

Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment during clean-up. Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed. For minor spills, absorb isocyanates with sawdust or other absorbent, shovel into suitable unsealed containers, transport to well ventilated area (outside) and treat with neutralizing solution: mixture of 80% water and 20% non-ionic surfactant Tergitol TMN-10; or 90% water, 3-8% concentrated ammonia and 2% detergent. Large quantities may be pumped into closed, but not sealed containers for disposal. If temporary control of isocyanate vapor is required, a blanket of protein foam (available at most fire departments) may be placed over spill.

7. HANDLING AND STORAGE

Handling:

Use only in well-ventilated areas. Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling. Wear suitable protective clothing, safety glasses and gloves.

Storage:

Do not let moisture contaminate this material. Product reacts with water to release carbon dioxide, which could build up pressure in closed containers and lead to bursting. Do not reseal if moisture contamination is suspected. Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. Protect from direct sunlight.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Polyurethane prepolymer	None	None	None	None
Methylenebis(phenylisocyanate)	0.005 ppm TWA	0.02 ppm (0.2 mg/m3) Ceiling	None	None
Methylene bisphenyl isocyanate	None	None	None	None

Engineering controls:

Work should be done in an adequately ventilated area (i.e., ventilation sufficient to maintain concentrations below one half of the PEL and other relevant standards). Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination. Local exhaust should be used to maintain levels below the TLV whenever MDI is processed, heated or spray applied. Monitoring of airborne isocyanates in the breathing zone of individuals should become part of the overall employee exposure characterization program. Once a person is diagnosed as sensitized to an isocyanate, no further exposure can be permitted.

Respiratory protection:

A positive pressure, supplied-air respirator or a self-contained breathing apparatus is recommended when: airborne concentrations of isocyanate are known to exceed 0.005 ppm; operations are performed in a confined space or area with limited ventilation; material is heated or sprayed. Do not inhale vapors and fumes. Concentrations greater than the TLV can occur when MDI is sprayed, heated or used in a poorly ventilated area. Observe OSHA regulations for respirator use (29 CFR 1910.134).

Eye/face protection:

Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Do not wear contact lenses.

Skin protection:

Use impermeable gloves and protective clothing as necessary to prevent skin contact. The workplace should be equipped with an emergency shower and eye-rinsing facility.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Brown
Odor:	Musty
Odor threshold:	Not available.
pH:	Not applicable
Vapor pressure:	Not determined
Boiling point/range:	Not determined
Melting point/ range:	Not determined
Specific gravity:	1.1
Vapor density:	Not determined
Flash point:	> 110 °C (> 230°F)
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not determined
Evaporation rate:	Not determined
Solubility in water:	Reacts with water.
Partition coefficient (n-octanol/water):	Not determined
VOC content:	Not available.
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions.

Hazardous reactions: Contact with moisture, other materials that react with isocyanates, or temperatures above 350° F (177° C), may cause polymerization. Uncontrolled polymerization may cause rapid evolution of heat and increase in pressure that could result in violent rupture of sealed storage vessels or containers.

Hazardous decomposition products: Upon decomposition, this product may yield gaseous nitrogen oxides, carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Hydrogen cyanide. Isocyanate vapors

Incompatible materials: Amines. Alcohols. Strong bases. Reaction with water, formation of CO2

Reactivity: Not available.

Conditions to avoid: Avoid moisture. Container can be pressurised by carbon dioxide due to reaction with humid air and/or water. Prolonged heating at temperatures above 150 °C. Protect from direct sunlight.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects/Symptoms

Inhalation: May cause respiratory tract irritation. This product may cause sensitization by inhalation and skin contact. Methylene bisphenyl isocyanate (MDI) vapors or mist at concentrations above the TLV can irritate the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). As a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. Chronic overexposure to isocyanates has been reported to cause lung damage.

Skin contact: Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitisation of susceptible persons. Animal tests have indicated that respiratory sensitization can result from skin contact with MDI. Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering.

Eye contact: Liquid or vapor can cause moderate to severe irritation. Symptoms can include irritation, redness, scratching of the cornea, and tearing. Conjunctivitis.

Ingestion: Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Not expected under normal conditions of use.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Polyurethane prepolymer	None	No Data
Methylenebis(phenylisocyanate)	Inhalation LC50 (RAT, 4 h) = 0.38 mg/l Inhalation LC50 (RAT, 4 h) = 0.369 mg/l	Irritant, Respiratory, Allergen
Methylene bisphenyl isocyanate	None	Allergen, Irritant, Mutagen, Respiratory

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Polyurethane prepolymer	No	No	No
Methylenebis(phenylisocyanate)	No	No	No
Methylene bisphenyl isocyanate	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: Do not empty into drains, soil or bodies of water.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Legal disposition of wastes is the responsibility of the owner/generator of the waste. Applicable federal, state and/or local regulations must be followed during treatment, storage, or disposal of waste containing this product.

Hazardous waste number: To the best of our knowledge, this product is not listed nor does it meet the criteria of a hazardous waste if discarded in its purchased form. However, under RCRA, it is the responsibility of the user to determine at the time of disposal whether a product meets any of the RCRA hazardous waste criteria. This is because product uses, transformations, mixtures, processes, etc., may render the resulting material hazardous, under the criteria of ignitability, corrosivity, reactivity and toxicity characteristics under the new Toxicity Characteristics Leaching Procedure (TCLP) 40 Code of Federal Regulations 261.20-24.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

International Air Transportation (ICAO/IATA)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

Water Transportation (IMO/IMDG)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis

CERCLA/SARA Section 311/312: Immediate Health, Delayed Health, Reactive

CERCLA/SARA 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 (40 CFR 372). Methylenebis(phenylisocyanate) (CAS# 101-68-8).

California Proposition 65: No California Proposition 65 listed chemicals are known to be present.

Canada Regulatory Information

CEPA DSL/NDSL Status: One or more components are not listed on, and are not exempt from listing on either the Domestic Substances List or the Non-Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

Prepared by: C. Poulsen, Regulatory Affairs

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