

SAFETY DATA SHEET

UPC 2700 Water Based Urethane Part B

SDS REVISION DATE: 05/05/2016

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Water-Based Urethane

MANUFACTURER: Universal Polymer Coatings, Inc.
DIVISION: Floor Coating
ADDRESS: 737 W. Taft Avenue, Orange CA 92865

EMERGENCY PHONE: 800-255-3924
CHEMTEL PHONE: 800-255-3924
OTHER CALLS: 714-279-1199
FAX PHONE: 714-279-8070

PRODUCT USE: Floor Coating
PREPARED BY: Universal Polymer Coatings, Inc.

SECTION 2: HAZARDS IDENTIFICATIONS

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:

GHS-US CLASSIFICATION

Acute Toxicity – Inhalation 4
Skin Sens. 1
STOS – single exposure – Resp. 3

LABEL ELEMENTS:

GHS LABEL ELEMENTS

HAZARD PICTOGRAMS:



SIGNAL WORD: Warning

HAZARD STATEMENTS:

H317 May cause an allergic skin reaction
H332 Harmful if inhaled
H335 May cause respiratory irritation

PRECAUTIONARY STATEMENTS:

PREVENTION: P261 Avoid breathing dust/fume/gas/mist/vapors/spray.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace
P280 Wear protective gloves. Wash....thoroughly after handling.

RESPONSE: P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 Call a POISON CENTER or doctor/physician if you feel unwell.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention
P363 Wash contaminated clothing before reuse.

STORAGE: P404+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up

DISPOSAL: P501 Dispose of contents/container in accordance with existing federal, state, and local environmental control laws.

OTHER HAZARDS:

None known

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS:	CAS #	AMOUNT
• Homopolymer of Hexamethylene Diisocyanate	28182-81-2	60-100%
• Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate	666723-27-9	15-25%
• Hexamethylene-1,6-Diisocyanate	822-06-0	<0.5%
• N,N-dimethylcyclohexylamine	98-94-2	0.1-1%

Any remaining components are trade secret.

SECTION 4: FIRST AID MEASURES

INHALATION:	Move to an area free from further exposure. Extreme asthmatic reactions that may occur in sensitized persons can be life threatening. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours.
SKIN:	Immediately remove contaminated clothing and shoes. Wash off with soap and water. Use lukewarm water if possible. Wash contaminated clothing before reuse. For severe exposures, immediately get under safety shower and begin rinsing. Get medical attention if irritation develops and persists.
EYES:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Use lukewarm water if possible. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Then remove contact lenses, if easily removable and continue eye irrigation for not less than 15 minutes. Get medical attention if irritation develops.
INGESTION:	Do NOT induce vomiting. Wash mouth out with water. Do not give anything by mouth to an unconscious person. Get medical attention.
MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:	<p>Isocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing difficulty). Persons with a pre-existing, nonspecific bronchial hyperreactivity can respond to concentrations below the exposure limits or guidelines with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the exposure limits or guidelines may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.</p> <p>May cause skin irritation with symptoms of reddening, itching and swelling. Can cause sensitization. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling and rash. Cured material is difficult to remove.</p> <p>May cause eye irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing.</p> <p>May cause irritation of the digestive tract; symptoms may include abdominal pain, nausea, vomiting and diarrhea.</p> <p>Symptoms affective the respiratory tract can also occur several hours after overexposure.</p>

NOTES TO PHYSICIANS/ SPECIAL TREATMENT:

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision. Skin: This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn. Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound. Inhalation: Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate. If seeking medical attention, provide SDS document to physician.

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SECTION 5: FIRE-FIGHTING MEASURES

- EXTINGUISHING MEDIA:** Dry chemical, Carbon Dioxide (CO₂), Foam, water spray for large fires.
Unsuitable: high volume water jet
- SPECIFIC (UNUSUAL) HAZARDS:** Closed container may forcibly rupture under extreme heat or when contents are contaminated with water (CO₂ formed). Use cold-water spray to cool fire-exposed containers to minimize the risk of rupture. Large fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot diisocyanate can be vigorous.
- ADVICE FOR FIRE-FIGHTERS:** Firefighters should wear NFPA compliant structural firefighting protective equipment, including self-contained breathing apparatus and NFPA compliant helmet, hood, boot and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated diisocyanate can be extremely dangerous.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

Implement site emergency response plan. Evacuate non-emergency personnel. The magnitude of the evacuation depends upon the quantity release, site conditions, and the ambient temperature. Isolate the area and prevent access of unauthorized personnel. Notify management. Call CHEMTREC at 1-800-424-9300 for assistance and advice.

Wear necessary personal protective equipment (PPE) as specified in the SDS or the site emergency response plan.

ENVIRONMENTAL PRECAUTIONS:

Ventilate and remove ignition sources. Control the source of the leak. Contain the release material by damming, diking, retaining or diverting into an appropriate containment area. Absorb or pump off as much of the spilled material as possible. When using absorbent, completely cover the spill area with suitable absorbent material (e.g., vermiculite, kitty litter, Oil-Dri®, etc....). Allow for the absorbent material to absorb the spilled liquid. Shovel the absorbent material into an approved metal container (i.e., 55-gallon salvage drum). Do not fill the container more than 2/3 full to allow for expansion and do not tighten the lid on the container. Repeat application of absorbent material until all liquid has been removed from the surface.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:

Decontaminate the spill surface area using a neutralization solution (see list of solutions on the SDS): scrubbing the surface with a broom or brush helps the decontamination solution to penetrate into porous surfaces. Wait at least 15 minutes after first application of the neutralization solution. Cover the area with absorbent material and shovel this into an approved metal container. Check for residual surface contamination using Swype® test kits, available from Colorimetric Laboratories, Inc. (CLI) at 847-803-3737. If the Swype® test pad demonstrates that isocyanate remains on the surface (red color on pad), repeat applications of neutralization solution, with scrubbing, followed by absorbent until the surface is decontaminated (no color change on Swype® pad). Apply lid loosely to metal waste container (do not tighten the lid because carbon dioxide gas and heat can be generated from the neutralization process). With the lid still loosely in place, move the container to an isolated, well-ventilated area to allow release of carbon dioxide. After 72 hours, seal the container, and properly dispose of the waste material and any contaminated equipment (i.e., broom or brush) in accordance with existing federal, state and local regulations.

ADDITIONAL ADVICE:

Products or product mixtures that have been shown to be effective neutralization solutions for decontaminating surfaces, tools, or equipment that have been in contact with an isocyanate includes; products available through industrial suppliers.:

- Spartan Chemical Company 1-800-537-8990
 - Spartan® ShineLine Emulsifier Plus
 - Spartain® SC-200 Heavy Duty Cleaner
- Colorimetric Laboratories, Inc. (CLI) 1-847-803-3737
 - Isocyanate Decontamination Solution

Mix equal amounts of the following:

- Mineral spirits (80%), VM&P Naphtha (15%), and household detergent (5%) and
- A 50-50 mixture of monoethanolamine and water
In a separate container, blend the two solutions in a 1:1 ratio by volume. Immediately prior to applying this blended neutralization solution onto the contaminated surface area, mix or agitate the container to help ensure uniform mixing of the ingredients.

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If the above products are not available, the following products can be obtained through retail outlets:

- ZEP® Commerical Heavy-Duty Floor Stripper
- Greased Lightning® Super Strength Cleaner and Degreaser
- EASY OFF® Grill and Oven Cleaner or EASY OFF® Fume Free Oven Cleaner
- A mixture of 50% Simple Green®Pro HD Heavy-Duty Cleaner and 50% household ammonia
- A mixture of 90% Fantastic® Heavy Duty All Purpose Cleaner and 10% household ammonia.

NOTE: Always wear proper PPE when cleaning up an isocyanate spill and using a neutralization solution. It may take two or more applications of the neutralization solution to decontaminate the surface. Check for residual surface contamination using a surface wipe method such as the CLI Swype® pad.

SECTION 7: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING:

Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space or if the exposure limit is exceeded. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating of burning this material. Decomposition products can be highly toxic and irritating. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

Storage Period: 6 months @ 25°C (77°F), after receipt of material
Storage Temperature: Minimum 7°C (44.6°F), Maximum 50°C (122°F)
Storage Conditions: Store separate from food products
Employee education and training in the safe use and handling of this product are required under the OSHA Hazard Communications Standard 29 CFR 1910.1200
Substances to Avoid: Water, amines, strong bases, alcohols, copper alloys

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS:

Chemical Name		
Homopolymer of Hexamethylene Diisocyanate	TIME WEIGHTED AVERAGE (TWA):	0.5 mg/m3
	SHORE TERM EXPOSURE LIMIT (STEL):	1.0 MG/M3 (15-min)
Hexamethylene-1,6-Diisocyanate	US. ACGIH THRESHOLD LIMIT - (TWA):	0.005 ppm

Any component which is listed in section 3 and is not listed in this section does not have a known ACGIH TLV, OSHA PEL or supplier recommended occupational exposure limit.

ENGINEERING MEASURES:

Good industrial hygiene practice dictates that worker protection should be achieved through engineering controls, such as ventilation, whenever feasible. When such controls are not feasible to achieve full protection, the use of respirators and other personal protective equipment is mandated. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination. Curing ovens must be ventilated to prevent emissions into the workplace. If oven off-gases are not vented properly (i.e. they are released into the work area), it is possible to be exposed to airborne monomeric HDI.

PERSONAL PROTECTION



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- EYE PROTECTION:** When directly handling liquid product, eye protection is required. Examples of eye protection include a chemical safety goggle, or chemical safety goggle in combination with a full face shield when there is a greater risk of splash.
- SKIN PROTECTION:** Avoid all skin contact. Depending on the conditions of use, cover as much of the exposed skin area as possible with appropriate clothing to prevent skin contact. Gloves, long sleeved shirts and pants.
- HAND PROTECTION:** Gloves should be worn. Nitrile rubber gloves, butyl rubber gloves, neoprene gloves.
- RESPIRATORY PROTECTION:** A respirator that is recommended or approved for use in isocyanate-containing environments (air-purifying or fresh air-supplied) may be necessary for spray applications or other situations such as high temperature use which may produce inhalation exposures. A supplied-air respirator (either positive pressure or continuous flow-type) is recommended. Before an air-purifying respirator can be used, air monitoring must be performed to measure airborne concentrations of HDI monomer and HDI polyisocyanate. Specific conditions under which air-purifying respirators can be used are outlined in the following sections. Observe OSHA regulations for respirator use (29 CFR 1910.134). **SPRAY APPLICATIONS:** Good industrial hygiene practice dictates that when isocyanate-based coatings are spray applied, some form of respiratory protection should be worn. During the spray application of coatings containing this product the use of a supplied-air (either positive pressure or continuous flow-type) respirator is mandatory when ONE OR MORE of the following conditions exists; -the airborne isocyanate concentrations are not known; or -the airborne isocyanate monomer concentrations exceed 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit); or -the airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m³ average over 8 hours or 10 mg/m³ averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits); or -operations are performed in a confined space (see OSHA Confined Space Standard, 29 CFR 1910.146). A properly fitted air-purifying (combination organic vapor and particulate) respirator, proven by test to be effective in isocyanate-containing spray paint environments, and used in accordance with all recommendations made by the manufacturer, can be used when ALL of the following conditions are met: -The airborne isocyanate monomer concentrations are known to be below 0.05 ppm averaged over eight (8) hours (10 times 8 hour TWA exposure limit); and -the airborne polyisocyanate (polymeric, oligomeric) concentrations are known to be below 5 mg/m³ averaged over 8 hours or 10 mg/m³ averaged 15 minutes (10 time the 8 hour TWA or the 15 minutes STEL exposure limits) and -a NIOSH-certified End of Service Life indicator or a change schedule based upon objective information or data is used to ensure that cartridges are replaced before the end of their service life. In addition, prefilters should be changed whenever breathing resistance increases due to particulate buildup. **NON-SPRAY OPERATIONS:** During non-spray operations such as mixing, batch-making, brush or roller application, etc., at elevated temperatures (for example, heating of material or application to a hot substrate), it is possible to be exposed to airborne, isocyanate vapors. Therefore, when coatings system will be applied in a non-spray manner, a supplied-air (either positive pressure or continuous flow-type) respirator is mandatory when ONE OR MORE of the following conditions exists; - the airborne isocyanate concentrations are not known; or -the airborne isocyanate monomer concentrations exceed 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit); or - the airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m³ averaged over 8 hours or 10 mg/m³ averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits); or - operations are performed in a confined space (see OSHA Confined Space Standard, 29 CFR 1910.146). A properly fitted air-purifying (combination organic vapor and particulate) respirator, proven by test to be effective in manufacturer, can be used when ALL of the following conditions are met; -the airborne concentrations of the isocyanate monomer are below 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit); and -the airborne polyisocyanate (polymeric, oligomeric) concentrations are known to be below 5 mg/m³ averaged over 8 hours or 10 mg/m³ averaged 15 minutes (10 time the 8 hour TWA or the 15 minutes STEL exposure limits) and -a NIOSH-certified End of Service Life indicator or a change schedule based upon objective information or data is used to ensure that cartridges are replaced before the end of their service life. In addition, prefilters should be changed whenever breathing resistance increases due to particulate buildup.
- SPECIAL INSTRUCTIONS:** All applicants who are assigned to an isocyanate work area should undergo a pre-placement medical evaluation. A history of eczema or respiratory allergies such as hay fever, are possible reasons for medical exclusion from isocyanate areas. Applicants with a history of prior isocyanate sensitization should be excluded from further work with isocyanates. A comprehensive annual medical surveillance program should be instituted for all employees who are potentially exposed to diisocyanates. Once a worker has been diagnosed as sensitized to any isocyanate, no further exposure can be permitted.
- Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of this product. Follow all label instructions.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:

Physical state	Liquid
Color	Light Yellow

ODOR: Slight

ODOR THRESHOLD: No data available

pH: No data available

MELTING POINT: No data available

BOILING POINT: Decomposition

FLASH POINT: ca. @ 365 °F, (185 °C)

EVAPORATION RATE: No data available

FLAMMABILITY (solid, gas): No data available

FLAMMABILITY LIMIT IN AIR

Upper: No data available

Lower: No data available

VAPOR PRESSURE: HDI Polyisocyanate: 5.2 x 10⁻⁹ @ 68 °F, (20 °C) mmHg

WATER SOLUBILITY: Insoluble – reacts slowly with water to liberate CO₂ gas

RELATIVE VAPOR DENSITY: No data available

PARTITION COEFFICIENT: No data available

AUTO-IGNITION TEMP: ca. @ 833 °F, (445 °C)

DECOMP TEMP: ca. @ 357 °F, (181 °C)

VISCOSITY: Approximately 800 mPa.s @ 68 °F, (20 °C)

MOLECULAR WEIGHT: 500 approximate value, for the polyisocyanate

DENSITY: ca. 1.15 g/cm³ @ 68°F, (20°C)

SPECIFIC GRAVITY: Approximately 1.15 @ 68°F, (20°C)

BULK DENSITY: Approximately 1,150 kg/m³

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under normal conditions of use and storage.

POSSIBILITY OF HAZARDOUS REACTIONS: Contact with moisture, other materials that react with isocyanates, or temperatures above 350°F (177°C), may cause polymerization.

CONDITIONS TO AVOID: Heat, flames and sparks. Protect from freezing.

MATERIAL TO AVOID: Water, amines, strong bases, alcohols, copper alloys

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: By fire and high heat: carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke, hydrogen cyanide, isocyanate, isocyanic acid, other undetermined compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

LIKELY ROUTES OF EXPOSURE

Effects on Eye:

Acute: May cause eye irritation with symptoms of reddening, tearing, stinging and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing.

Chronic: Prolonged vapor contact with the eyes may cause conjunctivitis.

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Effects of Skin:

Acute: May cause skin irritation with symptoms of reddening, itching and swelling. Can cause sensitization. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling and rash. Cured material is difficult to remove.

Chronic: Prolonged contact with skin can cause reddening, swelling, rash and in some cases, skin sensitization. Animal tests and other research indicate that skin contact with isocyanates can play a role in causing isocyanates sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

Inhalation Effects:

Acute: Isocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing difficulty). Persons with a preexisting, nonspecific bronchial hyperactivity can respond to concentrations below the exposure limits or guidelines with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the exposure limits or guidelines may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

Chronic: As a result of previous repeated overexposures or a single large dose, certain individuals may develop sensitization to isocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to isocyanates at levels well below the exposure limits or guidelines. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure. Extreme asthmatic reactions can be life threatening. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Sensitization can be permanent.

Ingestion Effects: No data available

Symptoms:

Acute: May cause irritation of the digestive tract; symptoms may include abdominal pain, nausea, vomiting and diarrhea.

Chronic: Symptoms affecting the respiratory tract can also occur several hours after overexposure.

ACUTE TOXICITY

Acute Toxicity – Component(s):

Oral:	-Homopolymer of Hexamethylene Diisocyanate:	LD50: \geq 5000 mg/kg	Species: Rat
	-Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate:	LD50: \geq 5000 mg/kg	Species: Rat
	-Hexamethylene-1,6-Diisocyanate:	LD50: 746 mg/kg LD50: 959 mg/kg	Species: Rat (male) Species: Rat (male)
Inhalation:	-Homopolymer of Hexamethylene Diisocyanate:	LC50: 0.39mg/l, 4h, dust/mist	Species: Rat (female)
	-Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate:	LC50: 0.158 mg/l,4h, dust/mist	Species: Rat
	-Hexamethylene-1,6-Diisocyanate:	LC50: 0.124 mg/l,4h vapor	Species: Rat
Dermal:	-Homopolymer of Hexamethylene Diisocyanate:	LD50: >2000 mg/kg	Species: Rat, Rabbit
	-Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate:	No data available	
	-Hexamethylene-1,6-Diisocyanate:	LD50: >7000 mg/kg	Species: Rat

Skin corrosion/irritation:

Slight irritant

Eye damage/irritation:

Slight irritant

Sensitization to respiratory:

No data available

Skin sensitization:

Causes sensitization

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CHRONIC TOXICITY OR EFFECTS FROM LONG TERM EXPOSURES

Carcinogenicity:	No data available
Reproductive toxicity:	No data available
Germ cell mutagenicity:	No data available
Specific target organ systemic toxicity:	
Single exposure:	No data available
Repeated exposure:	No data available
Aspiration hazard:	No data available

SECTION 12: EGOLOGICAL INFORMATION

ECOTOXICITY EFFECTS

Aquatic toxicity:

Toxicity to Fish – Component(s):

-Homopolymer of Hexamethylene Diisocyanate:	LC50: >100 mg/l 96h	Species: Danio rerio (zebra fish)
-Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate:	LC50: 35.2 mg/l 96h	Species: Danio rerio (zebra fish)
-Hexamethylene-1,6-Diisocyanate:	LC0: >=82.8 mg/l 96h	Species: Danio rerio (zebra fish)

Toxicity to Aquatic Invertebrates – Component(s):

-Homopolymer of Hexamethylene Diisocyanate:	EC50: >100 mg/l 48h	Species: Daphnia magna (water flea)
-Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate:	EC50: >100 mg/l 48h	Species: Daphnia magna (water flea)
-Hexamethylene-1,6-Diisocyanate:	EC0: >=89.1 mg/l 48h	Species: Daphnia magna (water flea).

Toxicity to Aquatic Plants – Component(s):

-Homopolymer of Hexamethylene Diisocyanate:	ErC50: 199 mg/l 72h	Species: scenedesmus subspicatus
-Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate:	IC50: 72 mg/l 72h	Species: Desmodesmus subspicatus (green algae)
-Hexamethylene-1,6-Diisocyanate:	ErC50: >77.4 mg/l 72h	Species: Desmodesmus subspicatus (green algae)

Toxicity to other organisms - Component(s):

-Homopolymer of Hexamethylene Diisocyanate:	EC50: >10,000 mg/l 3h	Species: activated sludge
-Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate:	EC50: >10,000 mg/l	Species: activated sludge
-Hexamethylene-1,6-Diisocyanate:	EC50: 842 mg/l 3h	Species: activated sludge

PERSISTENCE AND DEGRADABILITY

Biodegradability:	Not readily degradable
Mobility in soil:	No data available
Bioaccumulation:	No data available

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD:

Waste disposal should be in accordance with existing federal, state and local environmental control laws. Incineration is the preferred method.

Empty containers retain product residue; observe all precautions on product. Do not heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed. Do not reuse without thorough commercial cleaning and reconditioning. If container is to be disposed, ensure all product residues are removed prior to disposal.

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SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

DOT: ID NUMBER: NA3082
PROPER SHIPPING NAME: Other regulated substances, liquid, N.O.S. (contains Hexamethylene-1,6-Diisocyanate)
HAZARD CLASS: 9
PACKING GROUP: III

IATA: Non-Regulated

IMDG: Non-Regulated

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): None

Country	Regulatory List	Notification
USA	TSCA	Included on Inventory
EU	EINECS	Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer.
CANADA	DSL	Included on Inventory
AUSTRALIA	AICS	Included on Inventory
JAPAN	ENCS	Included on Inventory
SOUTH KOREA	ECL	Included on Inventory
CHINA	SEPA	Included on Inventory
PHILIPPINES	PICCS	Included on Inventory

EPA SARA Title III Section 311/312 (40 CFR 370) Hazard Classification: Acute Health Hazard

EPA SARA Title III Section 313 (40 CFR 372.65) Component(s): None

EPA SARA Title III Section 302 (40 CFR 355) Component(s): None

US California Safe Drinking Water & Toxic Enforcement Act (Proposition 65): None

State Right-To-Know: Massachusetts, New Jersey, Pennsylvania (see list of components)

SECTION 16: DISCLAIMER

OTHER INFORMATION

HMIS Rating:

Health: 2

Flammability: 1

Physical Hazard: 0

DISCLAIMER: The information herein is given in good faith, but no warranty expressed or implied is made. Universal Polymer Coatings, Inc. urges suppliers and users of this product to evaluate its suitability and compliance with local regulations as Universal Polymer Coatings, Inc. cannot foresee the nature of the final application or final location of usage.