Safety Data Sheet

Version 1.0
Revision Date 5/12/2022

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Urocel, A Component
Chemical Family	:	Polyester Resin in Organic Solvent
Product Use Description	:	Paint, Urethane Coating
Manufacturer	:	Pilgrim Permocoat, Inc. 402 S. 22nd Street Tampa, FL 33605
Telephone	:	(813) 248-3328
Emergency telephone number (24h)	:	Chemtrec 800 262 8200

2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids	-	Category 3
Eye irritation	-	Category 2B

GHS label elements

Hazard pictograms/symbols

Signal Word: Warning

Hazard Statements:

Flammable liquid or vapour.
Causes eye irritation.

Precautionary Statements:

Prevention: Keep away from heat, sparks, open flames, and hot surfaces. – No smoking
Ground/bond container and receiving equipment.
Use explosion-proof electrical, ventilating and lighting equipment
Use only non-sparking tools.
Take precautionary measures against static discard.
Wash skin and face thoroughly after handling.
Wear permeation resistant protective gloves and clothing. Wear eye and face protection.

Keep container tightly closed

Response: P303+P361+P353 :IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 :IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 :If skin irritation or rash occurs: Get medical advice/attention.
P363 :Wash contaminated clothing before reuse.
In case of fire: Use dry chemical, carbon dioxide (CO2), Foam, or water spray (for large fires) to extinguish.

Storage: Store in well-ventilated place. Keep cool.

Disposal: P501:Disposal of contents/container to be specified in accordance with regulations.

Hazards not otherwise classified

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Concentration (Weight)
Propulene Glycol Monomethyl Ether Acetate	108-65-6	50% - 60%

The specific chemical identity and/or exact percentage of component(s) have been withheld as a trade secret.

4. FIRST AID MEASURES

General advice : Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

Eye contact : In case of contact, flush eyes with plenty of lukewarm water. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Get medical attention.

Skin contact : In case of skin contact, wash affected areas with soap and water. Immediately remove contaminated clothing and shoes. Get medical attention if irritation develops and persists. Thoroughly clean shoes before reuse. Wash clothing before reuse.

Ingestion : If ingested, do not induce vomiting unless directed to do so by medical personnel. Get medical attention.

Inhalation : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiraton. Get medical attention.

Most important symptoms/effects - acute and delayed **Acute:** Causes eye irritation with symptoms of reddening, tearing, stinging, and swelling.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	All extinguishing media are suitable.
Unsuitable extinguishing media	:	No data available
Fire Fighting Procedure	:	Firefighters should be equipped with self-contained breathing apparatus to protect against potentially toxic and irritating fumes. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture.
Hazardous Decomposition Products	:	By Fire and Thermal Decomposition: Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke., Other undetermined compounds
Unusual Fire/Explosion Hazards	:	Flammable Liquid. Vapors may spread long distances and ignite. Vapors or mist may be a fire and explosion hazard when exposed to high temperature or ignition. Vapors or fumes may form explosive mixture with air. Toxic and irritating gases/fumes may be given off during burning or thermal decomposition.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures	:	Wear suitable protective clothing, gloves and eye/face protection. Use self-contained breathing apparatus and chemically protective clothing. Evacuate personnel to safe areas.
Environmental precautions	:	Construct a dike to prevent spreading.
Methods for cleaning up	:	Contact Pilgrim Permocoat, Inc. for advice. Approach suspected leak areas with caution. Place in appropriate chemical waste container.
Additional advice	:	Open enclosed spaces to outside atmosphere. If possible, stop flow of product.

7. HANDLING AND STORAGE

Handling

Remove all sources of ignition, including flames, heat, and sparks. Take precautionary measures against static discharges. Ground and bond containers and equipment before transferring to avoid static sparks. Do not breathe vapours or spray mist. Avoid contact with eyes. Avoid contact with skin or clothing. Use only with adequate ventilation/personal protection. Wash thoroughly after handling. Keep container closed

when not in use.

Storage

Storage Period:
6 Months @ 25 °C (77 °F): after receipt of material by customer
Storage Temperature
Minimum: 0°C (32 °F)
Maximum: 45 °C (113 °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 Communication Standard 29 CFR 1910.1200.

Substances to Avoid
Oxidizing agents, Reducing agents, Peroxides

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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/Hygiene

General dilution and local exhaust as necessary to control airborne vapors, mists, dusts and thermal decomposition products below appropriate airborne concentration standards/guidelines. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination. Curing ovens must be ventilated to prevent the build up of explosive atmospheres and to prevent off gases from entering the work place.

Personal protective equipment

Respiratory protection	:	The use of a positive pressure supplied air respirator is mandatory when: airborne concentrations are not known; airborne solvent levels are 10 times the appropriate TLV; spraying is performed in a confined space or area with limited ventilation.
Hand protection	:	Butyl-rubber Nitrile rubber. Neoprene gloves. Impervious gloves. PVC disposable gloves Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
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 and body 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.

Special instructions for protection and hygiene : Employees should wash their hands and face before eating, drinking, or using tobacco products. Educate and train employees in the safe use and handling of this product. Emergency showers and eye wash stations should be available.

Exposure Limit(s)

Propylene Glycol Monomethyl Ether Acetate (108-65-6)	US. ACGIH Threshold Limit Values Time Weighted Average (TWA):	None known

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid. Colorless to light yellow
Odor	:	Solvent-like
Odor threshold	:	No data available
pH	:	No data available
Melting point/range	:	No data available
Boiling point/range	:	294 °F (146 °C)
Flash point	:	124.88 °F (51.6 °C) (Setaflash (ASTM D-3243, D-3278, D-3828)) Based on organic solvent (s) contained in the product.
Evaporation rate	:	No data available
Flammability (solid,gas)	:	Not applicable
Upper/lower explosion/flammability limit	:	1.3% (V) for the solvent (lower) 13.1% (V) for the so;vent (upper)
Vapor pressure	:	3.7 mmHg at 70 °F (21 °C) for the solvent
Water solubility	:	Insoluable
Relative vapor density	:	Not applicable
Relative density	:	1.10
Partition coefficient (n-octanol/water)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available.
Viscosity	:	No data available
Molecular Weight	:	No data available
Density	:	67.3 lb/ft3 (1.078 g/cm3) at 70 °F (21 °C)

10. STABILITY AND REACTIVITY

Chemical Stability	:	Stable under normal conditions.
Conditions to avoid	:	Heat, flames and sparks.
Materials to avoid	:	Oxidizing agents, Reducing agents, Peroxides
Hazardous decomposition products	:	By Fire and Thermal Decomposition: Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke., Other undetermined compounds
Possibility of hazardous Reactions/Reactivity	:	Hazardous polymerisation does not occur.

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure

Skin Contact
Inhalation
Eye Contact
Ingestion

Health Effects and Symptoms

Acute: Causes eye irritation with symptoms of reddening, tearing, stinging, and swelling.
Chronic: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling solvents may be harmful or fatal.

Toxicity Data for Propylene Glycol Monomethyl Ether Acetate

Toxicity Note
Data is based on a similar product, including residual monomer.

Acute Oral Toxicity
LD50: > 5155 mg/kg (rat, female) (OECD Test Guideline 401)

Acute Inhalation Toxicity
LC0: > 70.458 mg/l, > 4345 ppm, 4 h (rat, male) (OECD Test Guideline 403)
4 hour test is calculated.

LC0: > 4345 ppm, 6 h (rat, male) (OECD Test Guideline 403)

Acute Dermal Toxicity
LD50: > 5000 mg/kg (rat, male/female) (OECD Test Guideline 402)

Skin Irritation
rabbit, OECD Test Guideline 404, Non-irritating

Eye Irritation
rabbit, slight irritant

Sensitization
dermal: non-sensitizer (Guinea pig, Magnusson/Kligmann (Maximization Test))

Skin sensitisation according to Magnusson/Kligmann (maximizing test):: negative (guinea pig, OECD Test Guideline 406)

Repeated Dose Toxicity
14 Days, inhalation: NOAEL: 300 ppm, LOAEL: 1,000 ppm, (Rat)

45 Days, Oral: NOAEL: >= 1,000 mg/kg, (Rat, male/female, daily)

9 Days, inhalation: NOAEL: 300 ppm, LOAEL: 1,000 ppm, (Rat, male/female, 6 hrs/day)

Mutagenicity
Genetic Toxicity in Vitro:
Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Developmental Toxicity/Teratogenicity
Rat, Female, inhalation, 6 hrs/day 7 days/week, NOAEL (teratogenicity): > 4,000 ppm, No Teratogenic effects observed at doses tested.Rat, Female, inhalation, GD 6-15, 6 hrs/day 7 days/week, NOAEL (teratogenicity): > 4,000 ppm, NOAEL (maternal): 500 ppm

Carcinogenicity:
No carcinogenic substances as defined by IARC, NTP and/or OSHA

12. ECOLOGICAL INFORMATION

No data available for this product

Ecological Data for Propylene Glycol Monomethyl Ether Acetate

Biodegradation
> 90 %, Exposure time: 28 d, i.e. readily biodegradable

Aerobic, 100 %, Exposure time: 8 d, i.e. degradable

Acute and Prolonged Toxicity to Fish
LC50: 161 mg/l (Fathead minnow (Pimephales promelas), 96 h)
LC50: > 100 mg/l (Oryzias latipes (Orange-red killifish), 96 h)

Acute Toxicity to Aquatic Invertebrates
EC50: 408 mg/l (Water flea (Daphnia magna), 48 h)
EC50: > 500 mg/l (Daphnia magna (Water flea), 48 h)

Toxicity to Aquatic Plants
EC50: > 1,000 mg/l, (Pseudokirchneriella subcapitata (green algae), 72 h)

Toxicity to Microorganisms
EC20: > 1,000 mg/l, (activated sludge, 0.5 h)

Additional Ecotoxicological Remarks
None.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products	:	Waste disposal should be in accordance with existing federal, state and local environmental control laws. Incineration is the preferred method.
Contaminated packaging	:	Empty containers retain product residue; observe all precautions for 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.

14. TRANSPORT INFORMATION

DOT

UN/ID No.	:	UN1263
Proper shipping name	:	Paint
Class or Division	:	3
Packing group	:	III
Label(s)	:	Flammable liquid
Marine Pollutant	:	No

IATA

UN/ID No.	:	UN1263
Proper shipping name	:	Paint
Class or Division	:	3
Packing group	:	III
Label(s)	:	Flammable liquid
Marine Pollutant	:	No

IMDG

UN/ID No.	:	UN1263
Proper shipping name	:	Paint
Class or Division	:	3
Packing group	:	III

Label(s)	:	Flammable liquid
Marine Pollutant	:	No

TDG

UN/ID No.	:	UN1263
Proper shipping name	:	Paint
Class or Division	:	3
Packing group	:	III
Label(s)	:	Flammable liquid
Marine Pollutant	:	No

Further Information

The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact Pilgrim Permocoat, Inc..

15. REGULATORY INFORMATION

United States Federal Regulations

US. Toxic Substances Control Act: Listed on the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302) Components:
None

SARA Section 311/312 Hazard Categories:
Acute Health Hazard
Fire Hazard

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A) Components:
None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required Components:
None

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):
Under RCRA, it is the responsibility of the person who generates a solid waste, as defined in 40 CFR 261.2, to determine if that waste is a hazardous waste., In its purchased form, this product meets the criteria of ignitability under 40 CFR 261.21(a), and, when discarded in that form, should be managed as a hazardous waste.

State Right-To-Know Information
The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:

Components	CAS-No.	Weight percent
Polyester Polyol	67815-82-1	>=1%
Propylene Glycol Monomethyl Ether Acetate	108-65-6	20-30%

California Prop. 65:
To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.
Based on information provided by our suppliers, this product is considered “DRC Conflict Free” as defined by the SEC Conflict Minerals Final Rule (Release No. 34-67716; File No. S7-40-10; Date: 2012-08-22).
HMIS Rating

Health	:	3
Flammability	:	1
Physical hazard	:	0

Prepared by	:	Pilgrim Permocoat, Inc.
Telephone	:	(813) 248-3328
Preparation Date	:	06/04/2022

Safety Data Sheet

Version 1.0
Revision Date 6/03/2022

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Urocel, B Component
Chemical Family	:	Aliphatic Polyisocyanate
Product Use Description	:	Curing Agent for Urethane Coating
Manufacturer	:	Pilgrim Permocoat, Inc. 402 S. 22nd Street Tampa, FL 33605
Telephone	:	(813) 248-3328
Emergency telephone number (24h)	:	Chemtrec 800 262 8200

2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity	-	Category 4
Specific target Organ toxicity	-	Category 3 (respiratory system)
Skin Sensitization	-	Category 1

GHS label elements

Hazard pictograms/symbols

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/vapours/spray. P264:Wash hands thoroughly after handling. P363: Wash contaminated clothing before reuse. P280:Wear protective gloves/protective clothing/eye protection/face protection.
Response:	P301+P330+P331 :IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353 :IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 :IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 :Immediately call a POISON CENTRE or doctor/physician.
P333+P313 :If skin irritation or rash occurs: Get medical advice/attention.
P363 :Wash contaminated clothing before reuse.

Disposal: P501:Disposal of contents/container to be specified in accordance with regulations.

Hazards not otherwise classified

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Concentration (Weight)
Homopolymer of Hexamethylene Diisocyanate	28182-81-2	95% - 100 %
Hexamethylene-1,6-Diisocyanate	822-06-0	0.1% - 1%

CHEMICAL FAMILY: Aliphatic Polyisocyanate

4. FIRST AID MEASURES

General advice : Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

Eye contact : 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.

Skin contact : 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.

Ingestion : Do NOT induce vomiting. Wash mouth out with water. Do not give anything by mouth to an unconscious person. Get medical attention.

Inhalation : If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air.

Most important symptoms/effects - acute and delayed	Repeated and/or prolonged exposure to low concentrations of vapors and/or aerosols may cause: Sore throat. Skin disorders and Allergies. Asthma.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Carbon dioxide (CO2). Dry chemical. Water spray for large fires
Unsuitable extinguishing media	:	High Volume water jet
Fire Fighting Procedure	:	Firefighters should wear NFPA compliant structural firefighting protective equipment, including self-contained breathing apparatus and NFPA compliant helmet, hood, boots 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.
Hazardous Decomposition Products	:	By Fire and High Heat: Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke., Hydrogen cyanide, Isocyanate, Isocyanic Acid, Other undetermined compounds
Unusual Fire/Explosion 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.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures	:	Wear suitable protective clothing, gloves and eye/face protection. Use self-contained breathing apparatus and chemically protective clothing. Evacuate personnel to safe areas.
Environmental precautions	:	Construct a dike to prevent spreading.
Methods for cleaning up	:	Contact Pilgrim Permocoat, Inc. for advice. Approach suspected leak areas with caution. Place in appropriate chemical waste container.
Additional advice	:	Open enclosed spaces to outside atmosphere. If possible, stop flow of product.

7. HANDLING AND STORAGE

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 or 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.

Storage

Storage Period:
6 Months @ 25 °C (77 °F): after receipt of material by customer
Storage Temperature
Minimum: -34 °C (-29.2 °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 Communication Standard 29 CFR 1910.1200.
Substances to Avoid
Water, Amines, Strong bases, Alcohols, Copper alloys

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures/Hygiene

Provide readily accessible eye wash stations and safety showers.
Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits. 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 protective equipment

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.

Hand protection	:	Butyl-rubber Nitrile rubber. Neoprene gloves. Impervious gloves. PVC disposable gloves Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
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 and body 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.
Special instructions for protection and hygiene	:	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 who have a history of adult asthma should be restricted from work with isocyanates.

Exposure Limit(s)

Hexamethylene-1,6-Diisocyanate (822-06-0)	US. ACGIH Threshold Limit Values Time Weighted Average (TWA):	0.005 ppm

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid. Colorless to light yellow
Odor	:	odourless
Odor threshold	:	No data available
pH	:	No data available
Melting point/range	:	No data available
Boiling point/range	:	@ 1,013 hPa not applicable, decomposition
Flash point	:	358 °F (181 °C)
Evaporation rate	:	No data available
Flammability (solid,gas)	:	Not applicable
Upper/lower explosion/flammability limit	:	Not applicable
Vapor pressure	:	9.3 x 10- EE-6 mmHg at 70 °F (21 °C)

Water solubility	:	Insoluable – Reacts slowly with water to liberate CO2 gas
Relative vapor density	:	Not applicable
Relative density	:	No data available
Partition coefficient (n-octanol/water)	:	No data available
Auto-ignition temperature	:	896 °F (480 °C)
Decomposition temperature	:	No data available.
Viscosity	:	10 000 cps
Molecular Weight	:	Approx.. 500
Density	:	71.0 lb/ft3 (1.384 g/cm3) at 70 °F (21 °C)

10. STABILITY AND REACTIVITY

Chemical Stability	:	Stable under normal conditions.
Conditions to avoid	:	Heat, flames and sparks.
Materials to avoid	:	Water, Amines, Strong bases, Alcohols, Copper alloys
Hazardous decomposition products	:	By Fire and High Heat: Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke., Hydrogen cyanide, Isocyanate, Isocyanic Acid, Other undetermined compounds
Possibility of hazardous Reactions/Reactivity	:	Contact with moisture, other materials that react with isocyanates, or temperatures above 350 F (177 C), may cause polymerization

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure

Skin Contact
Inhalation
Eye Contact

Health Effects and Symptoms

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

Chronic Toxicity: 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.
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 isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

Toxicity Data for Homopolymer of Hexamethylene Diisocyanate

Toxicity Note
Data is based on a similar product, including residual monomer.

Acute Oral Toxicity
LD50: > 5000 mg/kg (rat, female) (OECD Test Guideline 423)

Acute Inhalation Toxicity
LC50: 0.554 mg/l, 4 h (rat)
The test atmosphere generated in the animal study is not representative of workplace environments, how the substance is placed on the market, and how it can reasonably be expected to be used. Therefore the test result cannot be directly applied for the purpose of assessing hazard. Based on the weight of the evidence, a modified classification for acute inhalation toxicity is justified.

Skin Irritation
rabbit, slight irritant

Eye Irritation
rabbit, slight irritant

Sensitization
Skin sensitisation according to Magnusson/Kligmann (maximizing test):: positive (guinea pig, OECD Test Guideline 406)

Repeated Dose Toxicity
Subchronic inhalation toxicity, rat:

Test concentration - 0,4 ; 3,4 and 21,0 mg aerosol/m³exposure time - 13 weeks(6 hours a day, 5 days a week)3,4 mg/m³ was tolerated without damage (NOEL),21,0 mg/m³ caused increase of lung weight.No evidence of histopathological changes in the upper and central respiratory passages.Unspecific changes in the lower respiratory tract; these are attributed to the product's primary irritation potential.Evidence of damage to organs other than the organs of respiration was not found.

Mutagenicity
Genetic Toxicity in Vitro:
Salmonella/microsome test (Ames test): No indication of mutagenic effects.

Genetic Toxicity in Vivo:
Micronucleus test: negative (mouse)
Negative

Toxicity Data for Hexamethylene-1,6-Diisocyanate

Acute Oral Toxicity
LD50: 746 mg/kg (rat, male) (OECD Test Guideline 401)
LD50: 959 mg/kg (rat, male) (OECD Test Guideline 401)

Acute Inhalation Toxicity
LC50: 0.124 mg/l, 4 h (rat, male/female) (OECD Test Guideline 403)
Acute Dermal Toxicity
LD50: > 7000 mg/kg (rat, male/female) (OECD Test Guideline 402)

Skin Irritation
rabbit, OECD Test Guideline 404, Corrosive

Eye Irritation
rabbit, OECD Test Guideline 405, Corrosive

Sensitization
dermal: sensitizer (guinea pig, Maximisation Test (GPMT))
Other isocyanates have been shown to produce dermal and respiratory sensitization in several species (guinea pigs, mice, rabbits, dogs). In addition, there is some evidence to suggest that cross-sensitization between different types of diisocyanates may occur.

dermal: sensitizer (Human, Case Report)

Respiratory sensitization: sensitizer (guinea pig)

Repeated Dose Toxicity
2 years, inhalation: NOAEL: < 0.005 ppm, LOAEL: 0.005 ppm, (rat, Male/Female, 6 hrs/day 5 days/week)
Irritation to lungs and nasal cavity.

Mutagenicity
Genetic Toxicity in Vitro:
Salmonella/microsome test (Ames test): negative (Salmonella typhimurium, Metabolic Activation: with/without)
Point mutation in mammalian cells (HPRT test): negative (Metabolic Activation: with/without)
Genetic Toxicity in Vivo:
Micronucleus test: negative (mouse, male/female, Inhalative)
negative

Carcinogenicity
rat, male/female, Inhalative, 2 yrs, 6 hours/day, 5 days/week, Did not show carcinogenic effects in animal experiments.

Toxicity to Reproduction/Fertility
Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test, Inhalative, 6 hours/day 7 days/week, (rat, male/female) NOAEL (F2): 0.3 ppm Fertility and developmental toxicity tests did not reveal any effect on reproduction

Developmental Toxicity/Teratogenicity
Rat, female, inhalation, gestation days 0 - 19, daily, NOAEL (teratogenicity): >0.3 ppm, NOAEL (maternal): < 0.3 ppm No Teratogenic effects observed at doses tested.
No fetotoxicity observed at doses tested.

Neurological Effects
Rats exposed by inhalation, 6 hours/day, for approximately 3 weeks, to concentrations as high as 0.3 ppm showed no neurobehavioral effects or damage to nerve tissues.

Carcinogenicity:
No carcinogenic substances as defined by IARC, NTP and/or OSHA

12. ECOLOGICAL INFORMATION

Ecological Data for Homopolymer of Hexamethylene Diisocyanate

Biodegradation
1 %, Exposure time: 28 d, i.e. not readily degradable

Acute and Prolonged Toxicity to Fish
LC50: > 100 mg/l (Danio rerio (zebra fish), 96 h)

Acute Toxicity to Aquatic Invertebrates
EC50: > 100 mg/l (Daphnia magna (Water flea), 48 h)

Toxicity to Aquatic Plants
ErC50: > 100 mg/l, (scenedesmus subspicatus, 72 h)

Toxicity to Microorganisms
EC50: > 100 mg/l, (activated sludge, 3 h)

Additional Ecotoxicological Remarks
Data is based on a similar product, including residual monomer.

Ecological Data for Hexamethylene-1,6-Diisocyanate

Biodegradation
aerobic, 42 %, Exposure time: 28 d, i.e. not readily degradable

Bioaccumulation

value calculated, 57.6 BCF
An accumulation in aquatic organisms is not to be expected.
value calculated, 3.2 BCF
An accumulation in aquatic organisms is not to be expected. Studies of hydrolysis products.

Acute and Prolonged Toxicity to Fish
LC0: >= 82.8 mg/l (Danio rerio (zebra fish), 96 h)

Acute Toxicity to Aquatic Invertebrates
EC0: >= 89.1 mg/l (Daphnia magna (Water flea), 48 h)

Toxicity to Aquatic Plants
ErC50: > 77.4 mg/l, (Desmodesmus subspicatus (Green algae), 72 h)

Toxicity to Microorganisms
EC50: 842 mg/l, (activated sludge, 3 h)

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products	:	Waste disposal should be in accordance with existing federal, state and local environmental control laws. Incineration is the preferred method.
Contaminated packaging	:	Empty containers retain product residue; observe all precautions for 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.

14. TRANSPORT INFORMATION

DOT

UN/ID No.	:	Non-Regulated
Proper shipping name	:	
Class or Division	:	
Packing group	:	
Label(s)	:	
Marine Pollutant	:	

IATA

UN/ID No.	:	Non-Regulated
Proper shipping name	:	
Class or Division	:	
Packing group	:	
Label(s)	:	
Marine Pollutant	:	

IMDG

UN/ID No.	:	Non-Regulated
Proper shipping name	:	
Class or Division	:	
Packing group	:	
Label(s)	:	
Marine Pollutant	:	

TDG

UN/ID No.	:	Non-Regulated
Proper shipping name	:	
Class or Division	:	
Packing group	:	
Label(s)	:	
Marine Pollutant	:	

Further Information

The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact Pilgrim Permocoat, Inc..

15. REGULATORY INFORMATION

United States Federal Regulations

US. Toxic Substances Control Act: Listed on the TSCA Inventory.

US. EPA CERCLA Hazardous Substances (40 CFR 302) Components:
None

SARA Section 311/312 Hazard Categories: Acute Health Hazard

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A) Components:
None

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required Components:
None

US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261): Under RCRA, it is the responsibility of the person who generates a solid waste, as defined in 40 CFR 261.2, to determine if that waste is a hazardous waste.

State Right-To-Know Information
The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists: Weight percent	**Components**	**CAS-No.**
>=95%	Homopolymer of Hexamethylene Diisocyanate	28182-81-2
0.1 - 1%	Hexamethylene-1,6-Diisocyanate	822-06-0

New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous Substances Lists: Weight percent	**Components**	**CAS-No.**
0.1 - 1%	Hexamethylene-1,6-Diisocyanate	822-06-0

California Prop. 65:
To the best of our knowledge, this product does not contain any of the listed chemicals, which the state of California has found to cause cancer, birth defects or other reproductive harm.

Based on information provided by our suppliers, this product is considered “DRC Conflict Free” as defined by the SEC Conflict Minerals Final Rule (Release No. 34-67716; File No. S7-40-10; Date: 2012-08-22).

16. OTHER INFORMATION

HMIS Rating

Health	:	3
Flammability	:	1
Physical hazard	:	0

Prepared by	:	Pilgrim Permocoat, Inc.
Telephone	:	(813) 248-3328
Preparation Date	:	06/04/2022