

ECO CorFlex

Molecular Industrial Polymers

SAFETY DATA SHEET

PRODUCT NAME: POLY HYBRID XLO (PART B)

HMIS RATINGS: H F R

PRODUCT DESCRIPTION: CLEAR POLYUREA FAST CURE (1A:1B)

2 1 1

SECTION I: COMPANY IDENTIFICATION

DISTRIBUTOR'S NAME:	ECO-CORFLEX INDUSTRIAL POLYMERS		
ADDRESS:	3801 E. ROESER ROAD, SUITE #1, PHOENIX, AZ 85040		
EMERGENCY PHONE #:	1-800-255-3924	DATE REVISED:	JAN 13, 2022
INFORMATION PHONE #:	1-866-406-2628	NAME OF PREPARER:	TECH. DEPT.

SECTION II: HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

CLASSIFICATION:

EYE IRRITATION CATEGORY 2A

RESPIRATORY SENSITIZER CATEGORY 1

ACUTE TOXICITY (INHALATION) CATEGORY 4

SKIN SENSITIZER CATEGORY 1

LABEL ELEMENTS

HAZARD PICTOGRAMS



SIGNAL WORD: DANGER!

HAZARD STATEMENT(S)

H319 CAUSES SERIOUS EYE IRRITATION.

H334 MAY CAUSE ALLERGY OR ASTHMA SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED.

H332 HARMFUL IF INHALED.

H317 MAY CAUSE AN ALLERGIC SKIN REACTION.

HAZARD(S) NOT OTHERWISE CLASSIFIED

NOT APPLICABLE

PRECAUTIONARY STATEMENT(S) GENERAL

P101 IF MEDICAL ADVICE IS NEEDED, HAVE PRODUCT CONTAINER OR LABEL AT HAND.

P102 KEEP OUT OF REACH OF CHILDREN.

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SECTION II: HAZARDS IDENTIFICATION (CONT'D)

PRECAUTIONARY STATEMENT(S) PREVENTION

P261 AVOID BREATHING MIST/VAPOURS/SPRAY.

P271 USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA.

P280 WEAR PROTECTIVE GLOVES/PROTECTIVE CLOTHING/EYE PROTECTION/FACE PROTECTION.

PRECAUTIONARY STATEMENT(S) RESPONSE

P304+P340 IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING.

P342+P311 IF EXPERIENCING RESPIRATORY SYMPTOMS: CALL A POISON CENTER OR DOCTOR/PHYSICIAN.

P305+P351+P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES IF PRESENT AND EASY TO DO. CONTINUE RINSING.

P302+P350 IF ON SKIN: WASH WITH PLENTY OF WATER.

PRECAUTIONARY STATEMENT(S) STORAGE: NOT APPLICABLE

PRECAUTIONARY STATEMENT(S) DISPOSAL

P501 DISPOSE OF CONTENTS/CONTAINER TO AUTHORISED HAZARDOUS OR SPECIAL WASTE COLLECTION POINT IN ACCORDANCE WITH ANY LOCAL REGULATION.

SECTION III: COMPOSITION & INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
822-08-0	<1	<u>hexamethylene diisocyanate</u>
28182-81-2	85-90	<u>hexamethylene diisocyanate polymer</u>
108-32-7	10-15	<u>propylene carbonate</u>

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

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SECTION IV: FIRST AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

EYE CONTACT

IF THIS PRODUCT COMES IN CONTACT WITH THE EYES:

IMMEDIATELY HOLD EYELIDS APART AND FLUSH THE EYE CONTINUOUSLY WITH RUNNING WATER.

ENSURE COMPLETE IRRIGATION OF THE EYE BY KEEPING EYELIDS APART AND AWAY FROM EYE AND MOVING THE EYELIDS BY OCCASIONALLY LIFTING THE UPPER AND LOWER LIDS.

CONTINUE FLUSHING UNTIL ADVISED TO STOP BY THE POISONS INFORMATION CENTRE OR A DOCTOR, OR FOR AT LEAST 15 MINUTES.

TRANSPORT TO HOSPITAL OR DOCTOR WITHOUT DELAY.

REMOVAL OF CONTACT LENSES AFTER AN EYE INJURY SHOULD ONLY BE UNDERTAKEN BY SKILLED PERSONNEL.

SKIN CONTACT

IF SKIN CONTACT OCCURS:

IMMEDIATELY REMOVE ALL CONTAMINATED CLOTHING, INCLUDING FOOTWEAR.

FLUSH SKIN AND HAIR WITH RUNNING WATER (AND SOAP IF AVAILABLE).

SEEK MEDICAL ATTENTION IN EVENT OF IRRITATION.

INHALATION

IF FUMES OR COMBUSTION PRODUCTS ARE INHALED REMOVE FROM CONTAMINATED AREA.

LAY PATIENT DOWN. KEEP WARM AND RESTED.

PROSTHESES SUCH AS FALSE TEETH, WHICH MAY BLOCK AIRWAY, SHOULD BE REMOVED, WHERE POSSIBLE, PRIOR TO INITIATING FIRST AID PROCEDURES.

APPLY ARTIFICIAL RESPIRATION IF NOT BREATHING, PREFERABLY WITH A DEMAND VALVE RESUSCITATOR, BAG-VALVE MASK DEVICE, OR POCKET MASK AS TRAINED.

PERFORM CPR IF NECESSARY.

TRANSPORT TO HOSPITAL, OR DOCTOR, WITHOUT DELAY.

FOLLOWING UPTAKE BY INHALATION, MOVE PERSON TO AN AREA FREE FROM RISK OF FURTHER EXPOSURE. OXYGEN OR ARTIFICIAL RESPIRATION SHOULD BE ADMINISTERED AS NEEDED. ASTHMATIC-TYPE SYMPTOMS MAY DEVELOP AND MAY BE IMMEDIATE OR DELAYED UP TO SEVERAL HOURS. TREATMENT IS ESSENTIALLY SYMPTOMATIC.

A PHYSICIAN SHOULD BE CONSULTED.

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SECTION IV: FIRST AID MEASURES (CONT'D)

INGESTION

IF SWALLOWED DO NOT INDUCE VOMITING.

IF VOMITING OCCURS, LEAN PATIENT FORWARD OR PLACE ON LEFT SIDE (HEAD-DOWN POSITION, IF POSSIBLE) TO MAINTAIN OPEN AIRWAY AND PREVENT ASPIRATION.

OBSERVE THE PATIENT CAREFULLY.

NEVER GIVE LIQUID TO A PERSON SHOWING SIGNS OF BEING SLEEPY OR WITH REDUCED AWARENESS; I.E. BECOMING UNCONSCIOUS.

GIVE WATER TO RINSE OUT MOUTH, THEN PROVIDE LIQUID SLOWLY AND AS MUCH AS CASUALTY CAN COMFORTABLY DRINK.

SEEK MEDICAL ADVICE.

IF SPONTANEOUS VOMITING APPEARS IMMINENT OR OCCURS, HOLD PATIENT'S HEAD DOWN, LOWER THAN THEIR HIPS TO HELP AVOID POSSIBLE ASPIRATION OF VOMITUS.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

SEE SECTION 11

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

ANY MATERIAL ASPIRATED DURING VOMITING MAY PRODUCE LUNG INJURY. THEREFORE, EMESIS SHOULD NOT BE INDUCED MECHANICALLY OR PHARMACOLOGICALLY. MECHANICAL MEANS SHOULD BE USED IF IT IS CONSIDERED NECESSARY TO EVACUATE THE STOMACH CONTENTS; THESE INCLUDE GASTRIC LAVAGE AFTER ENDOTRACHEAL INTUBATION. IF SPONTANEOUS VOMITING HAS OCCURRED AFTER INGESTION, THE PATIENT SHOULD BE MONITORED FOR DIFFICULT BREATHING, AS ADVERSE EFFECTS OF ASPIRATION INTO THE LUNGS MAY BE DELAYED UP TO 48 HOURS.

FOR SUB-CHRONIC AND CHRONIC EXPOSURES TO ISOCYANATES:

THIS MATERIAL MAY BE A POTENT PULMONARY SENSITISER WHICH CAUSES BRONCHOSPASM EVEN IN PATIENTS WITHOUT PRIOR AIRWAY HYPERREACTIVITY.

CLINICAL SYMPTOMS OF EXPOSURE INVOLVE MUCOSAL IRRITATION OF RESPIRATORY AND GASTROINTESTINAL TRACTS.

CONJUNCTIVAL IRRITATION, SKIN INFLAMMATION (ERYTHEMA, PAIN VESICULATION) AND GASTROINTESTINAL DISTURBANCES OCCUR SOON AFTER EXPOSURE.

PULMONARY SYMPTOMS INCLUDE COUGH, BURNING, SUBSTERNAL PAIN AND DYSPNOEA.

SOME CROSS-SENSITIVITY OCCURS BETWEEN DIFFERENT ISOCYANATES.

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SECTION IV: FIRST AID MEASURES (CONT'D)

NONCARDIOGENIC PULMONARY OEDEMA AND BRONCHOSPASM ARE THE MOST SERIOUS CONSEQUENCES OF EXPOSURE. MARKEDLY SYMPTOMATIC PATIENTS SHOULD RECEIVE OXYGEN, VENTILATORY SUPPORT AND AN INTRAVENOUS LINE.

TREATMENT FOR ASTHMA INCLUDES INHALED SYMPATHOMIMETICS (EPINEPHRINE [ADRENALIN], TERBUTALINE) AND STEROIDS.

ACTIVATED CHARCOAL (1 G/KG) AND A CATHARTIC (SORBITOL, MAGNESIUM CITRATE) MAY BE USEFUL FOR INGESTION.

MYDRIATICS, SYSTEMIC ANALGESICS AND TOPICAL ANTIBIOTICS (SULAMYD) MAY BE USED FOR CORNEAL ABRASIONS.

THERE IS NO EFFECTIVE THERAPY FOR SENSITISED WORKERS.

[ELLENHORN AND BARCELOUX; MEDICAL TOXICOLOGY]

NOTE: ISOCYANATES CAUSE AIRWAY RESTRICTION IN NAIVE INDIVIDUALS WITH THE DEGREE OF RESPONSE DEPENDANT ON THE CONCENTRATION AND DURATION OF EXPOSURE. THEY INDUCE SMOOTH MUSCLE CONTRACTION WHICH LEADS TO BRONCHOCONSTRICTIVE EPISODES. ACUTE CHANGES IN LUNG FUNCTION, SUCH AS DECREASED FEV1, MAY NOT REPRESENT SENSITIVITY.

[KAROL & JIN, FRONTIERS IN MOLECULAR TOXICOLOGY, PP 56-61, 1992]

PERSONNEL WHO WORK WITH ISOCYANATES, ISOCYANATE PREPOLYMERS OR POLYISOCYANATES SHOULD HAVE A PRE-PLACEMENT MEDICAL EXAMINATION AND PERIODIC EXAMINATIONS THEREAFTER, INCLUDING A PULMONARY FUNCTION TEST. ANYONE WITH A MEDICAL HISTORY OF CHRONIC RESPIRATORY DISEASE, ASTHMATIC OR BRONCHIAL ATTACKS, INDICATIONS OF ALLERGIC RESPONSES, RECURRENT ECZEMA OR SENSITISATION CONDITIONS OF THE SKIN SHOULD NOT HANDLE OR WORK WITH ISOCYANATES. ANYONE WHO DEVELOPS CHRONIC RESPIRATORY DISTRESS WHEN WORKING WITH ISOCYANATES SHOULD BE REMOVED FROM EXPOSURE AND EXAMINED BY A PHYSICIAN. FURTHER EXPOSURE MUST BE AVOIDED IF A SENSITIVITY TO ISOCYANATES OR POLYISOCYANATES HAS DEVELOPED.

SECTION V: FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

SMALL QUANTITIES OF WATER IN CONTACT WITH HOT LIQUID MAY REACT VIOLENTLY WITH GENERATION OF A LARGE VOLUME OF RAPIDLY EXPANDING HOT STICKY SEMI-SOLID FOAM.

PRESENTS ADDITIONAL HAZARD WHEN FIRE FIGHTING IN A CONFINED SPACE.

FOAM.

DRY CHEMICAL POWDER.

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SECTION V: FIRE FIGHTING MEASURES (CONT'D)

SPECIAL HAZARDS ARISING FROM THE SUBSTRATE OR MIXTURE

FIRE INCOMPATIBILITY AVOID CONTAMINATION WITH OXIDISING AGENTS I.E. NITRATES, OXIDISING ACIDS, CHLORINE BLEACHES, POOL CHLORINE ETC. AS IGNITION MAY RESULT.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS

FIRE FIGHTING

ALERT FIRE BRIGADE AND TELL THEM LOCATION AND NATURE OF HAZARD.

WEAR FULL BODY PROTECTIVE CLOTHING WITH BREATHING APPARATUS.

FIRE/EXPLOSION HAZARD

-COMBUSTIBLE.

-MODERATE FIRE HAZARD WHEN EXPOSED TO HEAT OR FLAME.

COMBUSTION PRODUCTS INCLUDE:

CARBON DIOXIDE (CO₂)

ISOCYANATES

HYDROGEN CYANIDE

ALDEHYDES

AND MINOR AMOUNTS OF

NITROGEN OXIDES (NO_x)

OTHER PYROLYSIS PRODUCTS TYPICAL OF BURNING ORGANIC MATERIAL.

MAY EMIT CORROSIVE FUMES.

WARNING: LONG STANDING IN CONTACT WITH AIR AND LIGHT MAY RESULT IN THE FORMATION OF POTENTIALLY EXPLOSIVE PEROXIDES.

WHEN HEATED AT HIGH TEMPERATURES MANY ISOCYANATES DECOMPOSE RAPIDLY GENERATING A VAPOUR WHICH PRESSURISES CONTAINERS, POSSIBLY TO THE POINT OF RUPTURE. RELEASE OF TOXIC AND/OR FLAMMABLE ISOCYANATE VAPOURS MAY THEN OCCUR.

SECTION VI: ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

SEE SECTION 8

ENVIRONMENTAL PRECAUTIONS

SEE SECTION 12

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SECTION VI: ACCIDENTAL RELEASE MEASURES (CONT'D)

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

MINOR SPILLS

REMOVE ALL IGNITION SOURCES.

CLEAN UP ALL SPILLS IMMEDIATELY.

MAJOR SPILLS

LIQUID ISOCYANATES AND HIGH ISOCYANATE VAPOUR CONCENTRATIONS WILL PENETRATE SEALS ON SELF CONTAINED BREATHING APPARATUS - SCBA SHOULD BE USED INSIDE ENCAPSULATING SUIT WHERE THIS EXPOSURE MAY OCCUR.

FOR ISOCYANATE SPILLS OF LESS THAN 40 LITRES (2 M2):

EVACUATE AREA FROM EVERYBODY NOT DEALING WITH THE EMERGENCY, KEEP THEM UPWIND AND PREVENT FURTHER ACCESS, REMOVE IGNITION SOURCES AND, IF INSIDE BUILDING, VENTILATE AREA AS WELL AS POSSIBLE.

NOTIFY SUPERVISION AND OTHERS AS NECESSARY.

AVOID CONTAMINATION WITH WATER, ALKALIES AND DETERGENT SOLUTIONS.

MATERIAL REACTS WITH WATER AND GENERATES GAS, PRESSURISES CONTAINERS WITH EVEN DRUM RUPTURE RESULTING.

MODERATE HAZARD.

CLEAR AREA OF PERSONNEL AND MOVE UPWIND.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION VII: HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

SAFE HANDLING

THE SUBSTANCE ACCUMULATES PEROXIDES WHICH MAY BECOME HAZARDOUS ONLY IF IT EVAPORATES OR IS DISTILLED OR OTHERWISE TREATED TO CONCENTRATE THE

PEROXIDES. THE SUBSTANCE MAY CONCENTRATE AROUND THE CONTAINER OPENING FOR EXAMPLE.

AVOID ALL PERSONAL CONTACT, INCLUDING INHALATION.

WEAR PROTECTIVE CLOTHING WHEN RISK OF EXPOSURE OCCURS.

DO NOT ALLOW CLOTHING WET WITH MATERIAL TO STAY IN CONTACT WITH SKIN.

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SECTION VII: HANDLING AND STORAGE (CONT'D)

OTHER INFORMATION

CONSIDER STORAGE UNDER INERT GAS.

FOR COMMERCIAL QUANTITIES OF ISOCYANATES:

·ISOCYANATES SHOULD BE STORED IN ADEQUATELY BUNDED AREAS. NOTHING ELSE SHOULD BE KEPT WITHIN THE SAME BUNDING.

STORE IN ORIGINAL CONTAINERS.

KEEP CONTAINERS SECURELY SEALED.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

SUITABLE CONTAINER

METAL CAN OR DRUM.

PACKAGING AS RECOMMENDED BY MANUFACTURER.

CHECK ALL CONTAINERS ARE CLEARLY LABELLED AND FREE FROM LEAKS.

STORAGE INCOMPATIBILITY

THE UNHINDERED OXYGEN ATOM FOUND ON CYCLIC ETHERS SUCH AS THE EPOXIDES, OXETANES, FURANS, DIOXANES AND PYRANS, CARRIES TWO UNSHARED PAIRS OF ELECTRONS - A STRUCTURE WHICH FAVORS THE FORMATION OF COORDINATION COMPLEXES AND THE SOLVATION OF CATIONS.

CYCLIC ETHERS ARE USED AS IMPORTANT SOLVENTS, AS CHEMICAL INTERMEDIATE AND AS MONOMERS FOR RING-OPENING POLYMERIZATION.

·AVOID REACTION WITH WATER, ALCOHOLS AND DETERGENT SOLUTIONS. ISOCYANATES ARE ELECTROPHILES, AND AS SUCH THEY ARE REACTIVE TOWARD A VARIETY OF NUCLEOPHILES INCLUDING ALCOHOLS, AMINES, AND EVEN WATER.

A RANGE OF EXOTHERMIC DECOMPOSITION ENERGIES FOR ISOCYANATES IS GIVEN AS 20-30 KJ/MOL.

THE RELATIONSHIP BETWEEN ENERGY OF DECOMPOSITION AND PROCESSING HAZARDS HAS BEEN THE SUBJECT OF DISCUSSION; IT IS SUGGESTED THAT VALUES OF ENERGY RELEASED PER UNIT OF MASS, RATHER THAN ON A MOLAR BASIS (J/G) BE USED IN THE ASSESSMENT.

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SECTION VIII: EXPOSURE CONTROL / PERSONAL PROTECTION

Control parameters						
Occupational Exposure Limits (OEL)						
INGREDIENT DATA						
Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US NIOSH Recommended Exposure Limits (RELS)	hexamethylene diisocyanate	1,6-Diisocyanatohexane; HDI; Hexamethylene-1,6-diisocyanate; 1,6-Hexamethylene diisocyanate; HMDI	0.005 ppm / 0.035 mg/m3	Not Available	0.020 ppm / 0.140 mg/m3	[10-minute]
US ACGIH Threshold Limit Values (TLV)	hexamethylene diisocyanate	Hexamethylene diisocyanate	0.005 ppm	Not Available	Not Available	URT irr; resp sens; BEI
Emergency Limits						
Ingredient	TEEL-1	TEEL-2	TEEL-3			
hexamethylene diisocyanate	0.018 ppm	0.2 ppm	3 ppm			
hexamethylene diisocyanate polymer	7.8 mg/m3	86 mg/m3	510 mg/m3			
propylene carbonate	34 mg/m3	370 mg/m3	2,200 mg/m3			
Ingredient	Original IDLH	Revised IDLH				
hexamethylene diisocyanate	Not Available	Not Available				
hexamethylene diisocyanate polymer	Not Available	Not Available				
propylene carbonate	Not Available	Not Available				
Occupational Exposure Banding						
Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit				
hexamethylene diisocyanate polymer	E	≤ 0.1 ppm				
propylene carbonate	E	≤ 0.1 ppm				
Notes:	<i>Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.</i>					

EXPOSURE CONTROLS

APPROPRIATE ENGINEERING CONTROLS

ALL PROCESSES IN WHICH ISOCYANATES ARE USED SHOULD BE ENCLOSED WHEREVER POSSIBLE.

TOTAL ENCLOSURE, ACCOMPANIED BY GOOD GENERAL VENTILATION, SHOULD BE USED TO KEEP ATMOSPHERIC CONCENTRATIONS BELOW THE RELEVANT EXPOSURE STANDARDS.

ENGINEERING CONTROLS ARE USED TO REMOVE A HAZARD OR PLACE A BARRIER BETWEEN THE WORKER AND THE HAZARD. WELL-DESIGNED ENGINEERING CONTROLS CAN BE HIGHLY EFFECTIVE IN PROTECTING WORKERS AND WILL TYPICALLY BE INDEPENDENT OF WORKER INTERACTIONS TO PROVIDE THIS HIGH LEVEL OF PROTECTION.



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SECTION VIII: EXPOSURE CONTROL / PERSONAL PROTECTION (CONT'D)

EYE AND FACE PROTECTION

SAFETY GLASSES WITH SIDE SHIELDS.

CHEMICAL GOGGLES.

SKIN PROTECTION SEE HAND PROTECTION BELOW

HANDS/FEET PROTECTION

NOTE:

THE MATERIAL MAY PRODUCE SKIN SENSITISATION IN PREDISPOSED INDIVIDUALS. CARE MUST BE TAKEN, WHEN REMOVING GLOVES AND OTHER PROTECTIVE EQUIPMENT, TO AVOID ALL POSSIBLE SKIN CONTACT.

THE SELECTION OF SUITABLE GLOVES DOES NOT ONLY DEPEND ON THE MATERIAL, BUT ALSO ON FURTHER MARKS OF QUALITY WHICH VARY FROM MANUFACTURER TO MANUFACTURER. WHERE THE CHEMICAL IS A PREPARATION OF SEVERAL SUBSTANCES, THE RESISTANCE OF THE GLOVE MATERIAL CAN NOT BE CALCULATED IN ADVANCE AND HAS THEREFORE TO BE CHECKED PRIOR TO THE APPLICATION.

DO NOT WEAR NATURAL RUBBER (LATEX GLOVES).

ISOCYANATE RESISTANT MATERIALS INCLUDE TEFLON, VITON, NITRILE RUBBER AND SOME PVA GLOVES.

PROTECTIVE GLOVES AND OVERALLS SHOULD BE WORN AS SPECIFIED IN THE APPROPRIATE NATIONAL STANDARD.

DO NOT USE SKIN CREAM UNLESS NECESSARY AND THEN USE ONLY MINIMUM AMOUNT.

ISOCYANATE VAPOUR MAY BE ABSORBED INTO SKIN CREAM AND THIS INCREASES HAZARD.

BODY PROTECTION SEE OTHER PROTECTION BELOW.

OTHER PROTECTION

ALL EMPLOYEES WORKING WITH ISOCYANATES MUST BE INFORMED OF THE HAZARDS FROM EXPOSURE TO THE CONTAMINANT AND THE PRECAUTIONS NECESSARY TO PREVENT DAMAGE TO THEIR HEALTH. THEY SHOULD BE MADE AWARE OF THE NEED TO CARRY OUT THEIR WORK SO THAT AS LITTLE CONTAMINATION AS POSSIBLE IS PRODUCED, AND OF THE IMPORTANCE OF THE PROPER USE OF ALL SAFEGUARDS AGAINST EXPOSURE TO THEMSELVES AND THEIR FELLOW WORKERS.

OVERALLS.

P.V.C APRON.

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SECTION VIII: EXPOSURE CONTROL / PERSONAL PROTECTION (CONT'D)

RESPIRATORY PROTECTION

FULL FACE RESPIRATOR WITH SUPPLIED AIR.

CARTRIDGE RESPIRATORS SHOULD NEVER BE USED FOR EMERGENCY INGRESS OR IN AREAS OF UNKNOWN VAPOUR CONCENTRATIONS OR OXYGEN CONTENT.

THE WEARER MUST BE WARNED TO LEAVE THE CONTAMINATED AREA IMMEDIATELY ON DETECTING ANY ODOURS THROUGH THE RESPIRATOR. THE ODOUR MAY INDICATE THAT THE MASK IS NOT FUNCTIONING PROPERLY, THAT THE VAPOUR CONCENTRATION IS TOO HIGH, OR THAT THE MASK IS NOT PROPERLY FITTED. BECAUSE OF THESE LIMITATIONS, ONLY RESTRICTED USE OF CARTRIDGE RESPIRATORS IS CONSIDERED APPROPRIATE.

CARTRIDGE PERFORMANCE IS AFFECTED BY HUMIDITY. CARTRIDGES SHOULD BE CHANGED AFTER 2 HR OF CONTINUOUS USE UNLESS IT IS DETERMINED THAT THE HUMIDITY IS LESS THAN 75%, IN WHICH CASE, CARTRIDGES CAN BE USED FOR 4 HR. USED CARTRIDGES SHOULD BE DISCARDED DAILY, REGARDLESS OF THE LENGTH OF TIME USED.

FOR SPRAYING OR OPERATIONS WHICH MIGHT GENERATE AEROSOLS:

FULL FACE RESPIRATOR WITH SUPPLIED AIR.

IN CERTAIN CIRCUMSTANCES, PERSONAL PROTECTION OF THE INDIVIDUAL EMPLOYEE IS NECESSARY. PERSONAL PROTECTIVE DEVICES SHOULD BE REGARDED AS BEING SUPPLEMENTARY TO SUBSTITUTION AND ENGINEERING CONTROL AND SHOULD NOT BE USED IN PREFERENCE TO THEM AS THEY DO NOTHING TO ELIMINATE THE HAZARD.

HOWEVER, IN SOME SITUATIONS, MINIMISING EXPOSURE TO ISOCYANATES BY ENCLOSURE AND VENTILATION IS NOT POSSIBLE, AND OCCUPATIONAL EXPOSURE STANDARDS MAY BE EXCEEDED, PARTICULARLY DURING ON-SITE MIXING OF PAINTS, SPRAY-PAINTING, FOAMING AND MAINTENANCE OF MACHINE AND VENTILATION SYSTEMS. IN THESE SITUATIONS, AIR-LINE RESPIRATORS OR SELF-CONTAINED BREATHING APPARATUS COMPLYING WITH THE APPROPRIATE NATIONALS' STANDARD MUST BE USED.

ORGANIC VAPOUR RESPIRATORS WITH PARTICULATE PRE- FILTERS AND POWERED, AIR-PURIFYING RESPIRATORS ARE NOT SUITABLE.

PPE MUST BE APPROPRIATELY SELECTED, INDIVIDUALLY FITTED AND WORKERS TRAINED IN THEIR CORRECT USE AND MAINTENANCE. PERSONAL PROTECTIVE EQUIPMENT MUST BE REGULARLY CHECKED AND MAINTAINED TO ENSURE THAT THE WORKER IS BEING PROTECTED.

AIR- LINE RESPIRATORS OR SELF-CONTAINED BREATHING APPARATUS COMPLYING WITH THE APPROPRIATE NATIONAL STANDARD SHOULD BE USED DURING THE CLEAN-UP OF SPILLS AND THE REPAIR OR CLEAN-UP OF CONTAMINATED EQUIPMENT AND SIMILAR SITUATIONS WHICH CAUSE EMERGENCY EXPOSURES TO HAZARDOUS ATMOSPHERIC CONCENTRATIONS OF ISOCYANATE.

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SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

MOISTURE SENSITIVE.

EPOXY RESINS ARE THERMOSETTING POLYMERS, WHICH ARE CROSSLINKED USING HARDENERS (CURING AGENTS).

EPOXY IS EITHER ANY OF THE BASIC COMPONENTS OR THE CURED END PRODUCTS OF EPOXY RESINS, AS WELL AS A COLLOQUIAL NAME FOR THE EPOXIDE FUNCTIONAL GROUP. EPOXY RESINS, ALSO KNOWN AS POLYEPOXIDES, ARE A CLASS OF REACTIVE PREPOLYMERS AND POLYMERS WHICH CONTAIN AT LEAST TWO EPOXIDE GROUPS.

PHYSICAL STATE LIQUID

RELATIVE DENSITY (WATER = 1) NOT AVAILABLE

ODOUR NOT AVAILABLE

PARTITION COEFFICIENT N-OCTANOL / WATER NOT AVAILABLE

ODOUR THRESHOLD NOT AVAILABLE

AUTO-IGNITION TEMPERATURE (°C) NOT AVAILABLE

PH (AS SUPPLIED) NOT AVAILABLE

DECOMPOSITION TEMPERATURE NOT AVAILABLE

MELTING POINT / FREEZING POINT (°C) NOT AVAILABLE

VISCOSITY (CST) NOT AVAILABLE

INITIAL BOILING POINT AND BOILING RANGE (°C) NOT AVAILABLE

MOLECULAR WEIGHT (G/MOL) NOT AVAILABLE

FLASH POINT (°C) 116 **TASTE** NOT AVAILABLE

EVAPORATION RATE NOT AVAILABLE

EXPLOSIVE PROPERTIES NOT AVAILABLE

FLAMMABILITY NOT APPLICABLE

OXIDISING PROPERTIES NOT AVAILABLE

UPPER EXPLOSIVE LIMIT (%) NOT AVAILABLE

SURFACE TENSION (DYN/CM OR MN/M) NOT AVAILABLE

LOWER EXPLOSIVE LIMIT (%) NOT AVAILABLE

VOLATILE COMPONENT (%VOL) NOT AVAILABLE

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Molecular Industrial Polymers

SAFETY DATA SHEET

PRODUCT NAME: POLY HYBRID XLO (PART B)

HMIS RATINGS: H F R

PRODUCT DESCRIPTION: CLEAR POLYUREA FAST CURE (1A:1B)

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SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES (CONT'D)

VAPOUR PRESSURE (KPA) NOT AVAILABLE

GAS GROUP NOT AVAILABLE

SOLUBILITY IN WATER IMMISCIBLE

PH AS A SOLUTION (1%) NOT AVAILABLE

VAPOUR DENSITY (AIR = 1) NOT AVAILABLE

VOC G/L NOT AVAILABLE

SECTION X: STABILITY & REACTIVITY DATA

REACTIVITY SEE SECTION 7

CHEMICAL STABILITY

UNSTABLE IN THE PRESENCE OF INCOMPATIBLE MATERIALS.

PRODUCT IS CONSIDERED STABLE.

POSSIBILITY OF HAZARDOUS

REACTIONS SEE SECTION 7

CONDITIONS TO AVOID SEE SECTION 7

INCOMPATIBLE MATERIALS SEE SECTION 7

HAZARDOUS DECOMPOSITION PRODUCTS SEE SECTION 5

SECTION XI: TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

INHALED

INHALATION OF VAPOURS OR AEROSOLS (MISTS, FUMES), GENERATED BY THE MATERIAL DURING THE COURSE OF NORMAL HANDLING, MAY PRODUCE TOXIC EFFECTS.

THE MATERIAL CAN CAUSE RESPIRATORY IRRITATION IN SOME PERSONS. THE BODY'S RESPONSE TO SUCH IRRITATION CAN CAUSE FURTHER LUNG DAMAGE.

THE VAPOUR/MIST MAY BE HIGHLY IRRITATING TO THE UPPER RESPIRATORY TRACT AND LUNGS; THE RESPONSE MAY BE SEVERE ENOUGH TO PRODUCE BRONCHITIS AND PULMONARY OEDEMA. POSSIBLE NEUROLOGICAL SYMPTOMS ARISING FROM ISOCYANATE EXPOSURE INCLUDE HEADACHE, INSOMNIA, EUPHORIA, ATAXIA, ANXIETY NEUROSIS, DEPRESSION AND PARANOIA.

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SECTION XI: TOXICOLOGICAL INFORMATION (CONT'D)

INGESTION

ACCIDENTAL INGESTION OF THE MATERIAL MAY BE HARMFUL; ANIMAL EXPERIMENTS INDICATE THAT INGESTION OF LESS THAN 150 GRAM MAY BE FATAL OR MAY PRODUCE SERIOUS DAMAGE TO THE HEALTH OF THE INDIVIDUAL.

SWALLOWING OF THE LIQUID MAY CAUSE ASPIRATION INTO THE LUNGS WITH THE RISK OF CHEMICAL PNEUMONITIS; SERIOUS CONSEQUENCES MAY RESULT. (ICSC13733)

SKIN CONTACT

SKIN CONTACT WITH THE MATERIAL MAY DAMAGE THE HEALTH OF THE INDIVIDUAL; SYSTEMIC EFFECTS MAY RESULT FOLLOWING ABSORPTION.

OPEN CUTS, ABRADED OR IRRITATED SKIN SHOULD NOT BE EXPOSED TO THIS MATERIAL ENTRY INTO THE BLOOD-STREAM, THROUGH, FOR EXAMPLE, CUTS, ABRASIONS OR LESIONS, MAY PRODUCE SYSTEMIC INJURY WITH HARMFUL EFFECTS. EXAMINE THE SKIN PRIOR TO THE USE OF THE MATERIAL AND ENSURE THAT ANY EXTERNAL DAMAGE IS SUITABLY PROTECTED.

THE MATERIAL MAY CAUSE MODERATE INFLAMMATION OF THE SKIN EITHER FOLLOWING DIRECT CONTACT OR AFTER A DELAY OF SOME TIME. REPEATED EXPOSURE CAN CAUSE CONTACT DERMATITIS WHICH IS CHARACTERISED BY REDNESS, SWELLING AND BLISTERING.

EYE

THIS MATERIAL MAY PRODUCE EYE IRRITATION IN SOME PERSONS AND PRODUCE EYE DAMAGE 24 HOURS OR MORE AFTER INSTILLATION. MODERATE INFLAMMATION MAY BE EXPECTED WITH REDNESS; CONJUNCTIVITIS MAY OCCUR WITH PROLONGED EXPOSURE.

CHRONIC

REPEATED OR LONG-TERM OCCUPATIONAL EXPOSURE IS LIKELY TO PRODUCE CUMULATIVE HEALTH EFFECTS INVOLVING ORGANS OR BIOCHEMICAL SYSTEMS.

LONG-TERM EXPOSURE TO RESPIRATORY IRRITANTS MAY RESULT IN AIRWAYS DISEASE, INVOLVING DIFFICULTY BREATHING AND RELATED WHOLE-BODY PROBLEMS.

INHALING THIS PRODUCT IS MORE LIKELY TO CAUSE A SENSITISATION REACTION IN SOME PERSONS COMPARED TO THE GENERAL POPULATION.

SKIN CONTACT WITH THE MATERIAL IS MORE LIKELY TO CAUSE A SENSITISATION REACTION IN SOME PERSONS COMPARED TO THE GENERAL POPULATION.

CYCLIC ETHERS CAN CAUSE CANCERS, ESPECIALLY OF THE LIVER.

THIS PRODUCT CONTAINS A POLYMER WITH A FUNCTIONAL GROUP CONSIDERED TO BE OF HIGH CONCERN. ISOTHIOCYANATES MAY CAUSE HYPERSENSITIVITY OF THE SKIN AND AIRWAYS.

ECO CorFlex

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SECTION XI: TOXICOLOGICAL INFORMATION (CONT'D)

THE CHEMISTRY OF REACTION OF ISOCYANATES, AS EVIDENCED BY MDI, IN BIOLOGICAL MILIEU IS SUCH THAT IN THE EVENT OF A TRUE EXPOSURE OF SMALL MDI DOSES TO THE MOUTH, REACTIONS WILL COMMENCE AT ONCE WITH BIOLOGICAL MACROMOLECULES IN THE BUCCAL REGION AND WILL CONTINUE ALONG THE DIGESTIVE TRACT PRIOR TO REACHING THE STOMACH.

ANIMAL TESTING SHOWS THAT POLYMERIC MDI CAN DAMAGE THE NASAL CAVITIES AND LUNGS, CAUSING INFLAMMATION AND INCREASED CELL GROWTH.

THERE HAS BEEN SOME CONCERN THAT THIS MATERIAL CAN CAUSE CANCER OR MUTATIONS BUT THERE IS NOT ENOUGH DATA TO MAKE AN ASSESSMENT.

CONTAINS FREE ORGANIC ISOCYANATE. MIXING AND APPLICATION REQUIRES SPECIAL PRECAUTIONS AND USE OF PERSONAL PROTECTIVE GEAR [APMF].

Poly Hybrid XLO	TOXICITY	IRRITATION
	Not Available	Not Available
hexamethylene diisocyanate	TOXICITY	IRRITATION
	dermal (rat) LD50: >525 mg/kg ^[1]	Eye: adverse effect observed (irritating) ^[1]
	Inhalation(Rat) LC50: 0.124 mg/L4 ^[1]	Skin: adverse effect observed (corrosive) ^[1]
	Oral(Mouse) LD50: 350 mg/kg ^[2]	Skin: adverse effect observed (irritating) ^[1]
hexamethylene diisocyanate polymer	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Skin (rabbit): 500 mg - moderate
	Inhalation(Rat) LC50: 0.0520.5 mg/L4 ^[1]	
propylene carbonate	Oral(Rat) LD50: >2000 mg/kg ^[1]	
	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >=2000 mg/kg ^[1]	Eye (rabbit): 60 mg - moderate
	Oral(Rat) LD50: >5000 mg/kg ^[1]	Eye: adverse effect observed (irritating) ^[1]
		Skin (human): 100 mg/3d-I moderate
		Skin (rabbit): 500 mg moderate
		Skin: no adverse effect observed (not irritating) ^[1]
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

HEXAMETHYLENE DIISOCYANATE

AROMATIC AND ALIPHATIC DIISOCYANATES MAY CAUSE AIRWAY TOXICITY AND SKIN SENSITIZATION. MONOMERS AND PREPOLYMERS EXHIBIT SIMILAR RESPIRATORY EFFECT.

FOR 1,6-HEXAMETHYLENE DIISOCYANATE (HDI):

EXPOSURES TO HDI ARE OFTEN ASSOCIATED WITH EXPOSURES TO ITS PREPOLYMERS, ONE OF WHICH IS WIDELY USED AS A HARDENER IN AUTOMOBILE AND AIRPLANE PAINTS. BOTH THE PREPOLYMERS AND THE NATIVE SUBSTANCE MAY CAUSE ASTHMA.

ECO CorFlex

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SECTION XI: TOXICOLOGICAL INFORMATION (CONT'D)

HEXAMETHYLENE DIISOCYANATE POLYMER * BAYER SDS ** ARDEX SDS

PROPYLENE CARBONATE

FOR PROPYLENE CARBONATE: NUMEROUS ADEQUATE AND RELIABLE ACUTE TOXICITY TESTS ARE AVAILABLE ON PROPYLENE CARBONATE. ORAL AND DERMAL TESTS MEET OECD & EPA GUIDELINES.

POLY HYBRID XLO PART B & HEXAMETHYLENE DIISOCYANATE

ASTHMA-LIKE SYMPTOMS MAY CONTINUE FOR MONTHS OR EVEN YEARS AFTER EXPOSURE TO THE MATERIAL ENDS. THIS MAY BE DUE TO A NON-ALLERGIC CONDITION KNOWN AS REACTIVE AIRWAYS DYSFUNCTION SYNDROME (RADS) WHICH CAN OCCUR AFTER EXPOSURE TO HIGH LEVELS OF HIGHLY IRRITATING COMPOUND.

POLY HYBRID XLO PART B & HEXAMETHYLENE DIISOCYANATE & HEXAMETHYLENE DIISOCYANATE POLYMER

ALLERGIC REACTIONS INVOLVING THE RESPIRATORY TRACT ARE USUALLY DUE TO INTERACTIONS BETWEEN IGE ANTIBODIES AND ALLERGENS AND OCCUR RAPIDLY. ALLERGIC POTENTIAL OF THE ALLERGEN AND PERIOD OF EXPOSURE OFTEN DETERMINE THE SEVERITY OF SYMPTOMS.

ATTENTION SHOULD BE PAID TO ATOPIC DIATHESIS, CHARACTERISED BY INCREASED SUSCEPTIBILITY TO NASAL INFLAMMATION, ASTHMA AND ECZEMA.

EXOGENOUS ALLERGIC ALVEOLITIS IS INDUCED ESSENTIALLY BY ALLERGEN SPECIFIC IMMUNE-COMPLEXES OF THE IGG TYPE; CELL-MEDIATED REACTIONS (T LYMPHOCYTES) MAY BE INVOLVED. SUCH ALLERGY IS OF THE DELAYED TYPE WITH ONSET UP TO FOUR HOURS FOLLOWING EXPOSURE.

THE FOLLOWING INFORMATION REFERS TO CONTACT ALLERGENS AS A GROUP AND MAY NOT BE SPECIFIC TO THIS PRODUCT.

CONTACT ALLERGIES QUICKLY MANIFEST THEMSELVES AS CONTACT ECZEMA, MORE RARELY AS URTICARIA OR QUINCKE'S OEDEMA. THE PATHOGENESIS OF CONTACT ECZEMA INVOLVES A CELL-MEDIATED (T LYMPHOCYTES) IMMUNE REACTION OF THE DELAYED TYPE.

ISOCYANATE VAPOURS ARE IRRITATING TO THE AIRWAYS AND CAN CAUSE THEIR INFLAMMATION, WITH WHEEZING, GASPING, SEVERE DISTRESS, EVEN LOSS OF CONSCIOUSNESS AND FLUID IN THE LUNGS. NERVOUS SYSTEM SYMPTOMS THAT MAY OCCUR INCLUDE HEADACHE, SLEEP DISTURBANCE, EUPHORIA, INCO-ORDINATION, ANXIETY, DEPRESSION AND PARANOIA.

HEXAMETHYLENE DIISOCYANATE & HEXAMETHYLENE DIISOCYANATE POLYMER

NO SIGNIFICANT ACUTE TOXICOLOGICAL DATA IDENTIFIED IN LITERATURE SEARCH.

HEXAMETHYLENE DIISOCYANATE POLYMER & PROPYLENE CARBONATE

THE MATERIAL MAY PRODUCE MODERATE EYE IRRITATION LEADING TO INFLAMMATION. REPEATED OR PROLONGED EXPOSURE TO IRRITANTS MAY PRODUCE CONJUNCTIVITIS.

THE MATERIAL MAY CAUSE SKIN IRRITATION AFTER PROLONGED OR REPEATED EXPOSURE AND MAY PRODUCE ON CONTACT SKIN REDNESS, SWELLING, THE PRODUCTION OF VESICLES, SCALING AND THICKENING OF THE SKIN.

ECO CorFlex

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SECTION XI: TOXICOLOGICAL INFORMATION (CONT'D)

Acute Toxicity	✓	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✓	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ – Data either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION XII: ECOLOGICAL INFORMATION (CONT'D)

Toxicity					
	Endpoint	Test Duration (hr)	Species	Value	Source
Poly Hybrid XLO	Not Available	Not Available	Not Available	Not Available	Not Available
hexamethylene diisocyanate	Endpoint	Test Duration (hr)	Species	Value	Source
	EC0(ECx)	24	Crustacea	<0.33mg/l	1
	LC50	96	Fish	22mg/l	1
	EC50	72	Algae or other aquatic plants	>77.4mg/l	2
hexamethylene diisocyanate polymer	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96	Fish	8.9mg/l	2
	NOEC(ECx)	72	Algae or other aquatic plants	50mg/l	2
	EC50	72	Algae or other aquatic plants	>1000mg/l	2

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SECTION XII: ECOLOGICAL INFORMATION (CONT'D)

propylene carbonate	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96	Fish	>1000mg/l	2
	EC50	48	Crustacea	>1000mg/l	1
	EC50(ECx)	72	Algae or other aquatic plants	>900mg/l	1
	EC50	72	Algae or other aquatic plants	>900mg/l	1

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

for polyisocyanates:
Polyisocyanates are not readily biodegradable. However, due to other elimination mechanisms (hydrolysis, adsorption), long retention times in water are not to be expected.
For Isocyanate Monomers:
Environmental Fate: Isocyanates, (di- and polyfunctional isocyanates), are commonly used to make various polymers, such as polyurethanes. Polyurethanes find significant application in the manufacture of rigid and flexible foams.

for propylene carbonate:
Environmental fate:
Data on the transport of propylene carbonate between environmental compartments has been estimated using EPIWIN; propylene carbonate will partition mostly to water and soil;1% to air; 46% to water; 53% to soil.
Does not absorb UV and therefore is unlikely to be photodegradable.
DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
hexamethylene diisocyanate	LOW	LOW
hexamethylene diisocyanate polymer	HIGH	HIGH
propylene carbonate	HIGH	HIGH

Persistence and degradability		
Ingredient	Persistence: Water/Soil	Persistence: Air
hexamethylene diisocyanate	LOW	LOW
hexamethylene diisocyanate polymer	HIGH	HIGH
propylene carbonate	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
hexamethylene diisocyanate	LOW (LogKOW = 3.1958)
hexamethylene diisocyanate polymer	LOW (LogKOW = 7.5795)
propylene carbonate	LOW (LogKOW = -0.41)

Mobility in soil

Ingredient	Mobility
hexamethylene diisocyanate	LOW (KOC = 5864)
hexamethylene diisocyanate polymer	LOW (KOC = 18560000)
propylene carbonate	LOW (KOC = 14.85)

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SECTION XIII: DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

PRODUCT / PACKAGING DISPOSAL

CONTAINERS MAY STILL PRESENT A CHEMICAL HAZARD/ DANGER WHEN EMPTY.

RETURN TO SUPPLIER FOR REUSE/ RECYCLING IF POSSIBLE.

LEGISLATION ADDRESSING WASTE DISPOSAL REQUIREMENTS MAY DIFFER BY COUNTRY, STATE AND/OR TERRITORY. EACH USER MUST REFER TO LAWS OPERATING IN THEIR AREA.

DO NOT ALLOW WASH WATER FROM CLEANING OR PROCESS EQUIPMENT TO ENTER DRAINS.

IT MAY BE NECESSARY TO COLLECT ALL WASH WATER FOR TREATMENT BEFORE DISPOSAL.

DO NOT RECYCLE SPILLED MATERIAL.

CONSULT STATE LAND WASTE MANAGEMENT AUTHORITY FOR DISPOSAL.

SECTION XIV: TRANSPORT INFORMATION

LABELS REQUIRED

MARINE POLLUTANT NO

LAND TRANSPORT (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

AIR TRANSPORT (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

SEA TRANSPORT (IMDG-CODE / GGVSEE): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL AND THE IBC CODE: NOT APPLICABLE

TRANSPORT IN BULK IN ACCORDANCE WITH MARPOL ANNEX V AND THE IMSBC CODE

Product name	Group
hexamethylene diisocyanate	Not Available
hexamethylene diisocyanate polymer	Not Available
propylene carbonate	Not Available
Transport in bulk in accordance with the ICG Code	
Product name	Ship Type
hexamethylene diisocyanate	Not Available
hexamethylene diisocyanate polymer	Not Available
propylene carbonate	Not Available

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SECTION XV: REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

hexamethylene diisocyanate is found on the following regulatory lists

US - California Hazardous Air Pollutants Identified as Toxic Air Contaminants
 US ACGIH Threshold Limit Values (TLV)
 US AIHA Workplace Environmental Exposure Levels (WEELs)
 US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)
 US Clean Air Act - Hazardous Air Pollutants
 US DOE Temporary Emergency Exposure Limits (TEELs)
 US EPA Integrated Risk Information System (IRIS)

US EPCRA Section 313 Chemical List
 US NIOSH Recommended Exposure Limits (RELs)
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances
 US TSCA New Chemical Exposure Limits (NCEL)
 US TSCA Section 4/12 (b) - Sunset Dates/Status

hexamethylene diisocyanate polymer is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)
 US EPCRA Section 313 Chemical List
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances
 US TSCA New Chemical Exposure Limits (NCEL)

propylene carbonate is found on the following regulatory lists

US DOE Temporary Emergency Exposure Limits (TEELs)
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	Yes
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	Yes
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

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SECTION XV: REGULATORY INFORMATION (CONT'D)

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)		
Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
hexamethylene diisocyanate	100	45.4

STATE REGULATIONS

US. CALIFORNIA PROPOSITION 65

NONE REPORTED

State Regulations	
US. California Proposition 65 None Reported	
National Inventory Status	
National Inventory	Status
Australia - AIIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (hexamethylene diisocyanate; propylene carbonate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (hexamethylene diisocyanate polymer)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (hexamethylene diisocyanate polymer)
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION XVI: OTHER INFORMATION

OTHER INFORMATION

CLASSIFICATION OF THE PREPARATION AND ITS INDIVIDUAL COMPONENTS HAS DRAWN ON OFFICIAL AND AUTHORITATIVE SOURCES AS WELL AS INDEPENDENT REVIEW BY THE CHEMWATCH CLASSIFICATION COMMITTEE USING AVAILABLE LITERATURE REFERENCES.

THE SDS IS A HAZARD COMMUNICATION TOOL AND SHOULD BE USED TO ASSIST IN THE RISK ASSESSMENT. MANY FACTORS DETERMINE WHETHER THE REPORTED HAZARDS ARE RISKS IN THE WORKPLACE OR OTHER SETTINGS.

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DISCLAIMER

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