

**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

**PRODUCT NAME:** ProTek 95 Part A  
**PRODUCT CODES:** ProTek 95 Part A  
**MANUFACTURER:** Concrete Coatings, Inc.  
**STREET ADDRESS:** 1105 N. 1600 W.  
**CITY, STATE, ZIP:** Layton, UT 84041

**INFORMATION PHONE:** 801-544-8771  
**EMERGENCY PHONE:** Chemtrec 800-424-9300  
**FAX PHONE:** 801-544-5896

**PREPARED BY:** Brian Anderson

**DATE REVISED:** 3/2/16

**Chemical Name or Class:** Aliphatic diamine mixture

**SECTION 2: HAZARDS IDENTIFICATION****Hazard Overview**

**GHS Classification:** Skin sensitizer category 1B, Acute toxicity (oral) category 4, Skin irritation category 2, Eye irritation category 2A, Carcinogenicity category 2, Specific target organ toxicity single exposure (respiratory system) category 3 Chronic hazards to aquatic environment category 3

**GHS Label Elements and Precautionary Statements:**

**Label Elements:** Health Hazard, Exclamation Mark

**Hazard Statements:**

Warning: May cause an allergic skin reaction  
Warning: Harmful if Swallowed.  
Warning: Causes skin irritation.  
Warning: Causes serious eye irritation.  
Warning: Suspected of causing Cancer.  
Warning: May cause respiratory irritation.  
Harmful to aquatic environment with long lasting effects.

**Precautionary statements:**

P102 Keep out of reach of children.  
P103 Read label before use  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves and clothing to prevent skin contact.  
P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P271 Use only outdoors or in a well-ventilated area.

**Response**

P302 + P352 IF ON SKIN: wash with plenty of soap and water.  
P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.  
P362 + P364 take off contaminated clothing and wash it before reuse.  
P301 + P312 IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.  
P330 Rinse mouth.  
P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.  
P305 + P351 + P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 IF eye irritation persists: Get medical advice/attention.  
P308 + P313 IF exposed or concerned: Get medical advice/attention.  
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.

**Storage:**

P405 Store locked up.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

**Disposal:**

P501 Dispose of contents/container to a waste disposal facility in accordance with local, state, federal or international laws

**HMIS HAZARD CLASSIFICATION**

**HEALTH: 2**      **FLAMMIBILITY: 1**      **REACTIVITY: 0**      **PERSONAL PROTECTIVE EQUIPMENT: G**

**POTENTIAL HEALTH EFFECTS****EYES:**

HIGH VAPOR CONCENTRATIONS CAN CAUSE IRRITATION TO THE EYES, NOSE OR THROAT.

# SAFETY DATA SHEET

PRODUCT CODE: 449

## SKIN:

CAN CAUSE SKIN IRRITATION, DEFATTING AND DERMATITIS.

## INGESTION:

LIQUID CAN CAUSE DAMAGE TO MUCOUS MEMBRANES IF SWALLOWED.

## INHALATION:

HIGH CONCENTRATIONS OF VAPOR CAN CAUSE IRRITATION TO THE RESPIRATORY TRACT, NAUSEA AND DIZZINESS.

## HEALTH HAZARDS (ACUTE AND CHRONIC):

PROLONGED OR REPEATED EXPOSURE MAY CAUSE ASTHMA AND SKIN SENSITIZATION OR OTHER ALLERGIC RESPONSES. OVER EXPOSURE TO THIS MATERIAL CAN CAUSE CARDIAC ABNORMALITIES, ANEMIA, LIVER ABNORMALITIES, OR KIDNEY DAMAGE.

## MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

RESPIRATORY CONDITIONS OR OTHER ALLERGIC AILMENTS

## CARCINOGENICITY

OSHA: NO NTP: Yes IARC: Yes

## ADDITIONAL CARCINOGENICITY INFORMATION:

Product may contain ethyl benzene as a component of xylene (IARC 2B).

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT</u>	<u>CAS NO.</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>OSHA STEL</u>	<u>WEIGHT %</u>
CYCLOALIPHATIC DIAMINE	136210-30-5	NE	NE	NE	30-60
CYCLOALIPHATIC DIAMINE	136210-32-7	NE	NE	NE	30-60
ALIPHATIC CARBOXYLIC ESTER	623-91-6	N/E	NE	NE	1-5
Isophorondiamine-isobutyraldimine	54914-37-3	NONE	NONE	NONE	5-10
*Xylene	1330-20-7	100PPM	100PPM	150PPM	2-5
*ethyl benzene (as a component of xylene)	100-41-4	100ppm	100ppm	125ppm	0.1-1
*toluene (as a component of xylene)	108-88-3	200ppm	20ppm	150ppm	<0.1
Naphtha-Light Aromatic	64742-95-6	50PPM	400PPM	NONE	<0.1
1,2,4-trimethylbenzene	95-63-6	25ppm	NONE	NONE	<0.1
2, 6-Dimethyl-4-Heptanone	108-83-8	25PPM	25PPM	NONE	<0.1
4,6-Dimethyl-2-heptanone	19549-80-5	NONE	NONE	NONE	<0.1
solution of polyacrylate	CAS# trade secret (NJTSRN 800963-549)	NONE	NONE	NONE	<0.1
1-Decane, homopolymer, hydrogenated	68037-01-4	NONE	NONE	NONE	<0.2
Siloxanes and silicones, di-me reactions products with silica (non-hazardous)	67762-90-7	none	none	none	>0.5
siloxanes and silicones, di-methyl (non-hazardous)	63148-62-9	none	none	none	<0.5

\*\*\*TOXIC CHEMICAL(S) SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III AND OF 40 CFR 372 ARE PRESENT.

**Note:** Ingredients listed without percentages, the percentages are considered a trade secret.

### SECTION 4: FIRST AID MEASURES

#### EYES:

IMMEDIATELY FLUSH WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE LIFTING UPPER AND LOWER LIDS, GET IMMEDIATE MEDICAL ASSISTANCE.

#### SKIN:

FLUSH SKIN WITH WATER FOR AT LEAST 15 MINUTES AND REMOVE ALL CONTAMINATED CLOTHING IMMEDIATELY. GET MEDICAL ATTENTION IF REDDENING OR SWELLING OCCURS.

#### INGESTION:

DO NOT INDUCE VOMITING. DILUTE BY GIVING WATER OR MILK TO DRINK IF VICTIM IS CONSCIOUS. GET MEDICAL ATTENTION IMMEDIATELY.

#### INHALATION:

REMOVE TO FRESH AIR IF EFFECTS PERSIST AND ADMINISTER OXYGEN IF NECESSARY.

#### NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:

### SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR,  
(% by volume)

UPPER: N/A  
LOWER: N/A

FLASH POINT: 200+F

METHOD USED:

SETA FLASH

# SAFETY DATA SHEET

PRODUCT CODE: 449

## EXTINGUISHING MEDIA:

FOAM, ALCOHOL FOAM, CO<sub>2</sub>, WATER FOG

## SPECIAL FIRE FIGHTING PROCEDURES:

TOXIC FUMES WILL BE EVOLVED WHEN THIS MATERIAL IS INVOLVED IN A FIRE. A SELF-CONTAINED BREATHING APPARATUS SHOULD BE AVAILABLE FOR FIRE FIGHTERS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

## UNUSUAL FIRE AND EXPLOSION HAZARDS:

NONE KNOWN

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## SECTION 6: RELEASE MEASURES

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**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** AVOID CONTACT WITH MATERIAL. WEAR THE APPROPRIATE SAFETY EQUIPMENT. STOP SPILL AT SOURCE, DYKE AREA TO PREVENT SPREADING. PUMP LIQUID TO SALVAGE TANK. TAKE UP REMAINDER WITH CLAY OR OTHER ABSORBANT AND PLACE IN DISPOSAL CONTAINERS.

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## SECTION 7: HANDLING AND STORAGE

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### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

AVOID ALL SKIN CONTACT. AVOID BREATHING VAPORS. RESEAL PARTIALLY USED CONTAINERS. PROPERLY LABEL ALL CONTAINERS. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES. OBSERVE CONDITIONS OF GOOD INDUSTRIAL HYGIENE AND SAFE WORKING PRACTICES.

### OTHER PRECAUTIONS:

MIXED MATERIALS CONTAIN THE HAZARDS OF ALL THE COMPONENTS, THEREFORE, READ THE MSDS OF ALL COMPONENTS TO BECOME FAMILIAR WITH ALL HAZARDS PRIOR TO USING THIS PRODUCT.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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### RESPIRATORY PROTECTION:

NIOSH APPROVED RESPIRATOR PROTECTION REQUIRED IN THE ABSENCE OF PROPER ENVIRONMENTAL CONTROLS. FOR EMERGENCIES A SELF-CONTAINED BREATHING APPARATUS OR A FULL FACE RESPIRATOR IS RECOMMENDED.

### VENTILATION:

AVOID BREATHING VAPORS. VENTILATION MUST BE SUFFICIENT TO CONTROL VAPORS.

### PROTECTIVE GLOVES:

IMPERVIOUS GLOVES, NEOPRENE OR RUBBER.

### EYE PROTECTION:

SPLASH PROOF GOGGLES OR SAFETY GLASSES WITH SIDE SHIELDS.

### OTHER PROTECTIVE CLOTHING OR EQUIPMENT:

CLEAN BODY COVERING CLOTHING AS WELL AS APRON FOOTWEAR OR OTHER EQUIPMENT SHOULD BE USED AS DEEMED NECESSARY TO AVOID CONTACT WITH THE MATERIAL.

### WORK HYGIENIC PRACTICES:

OBSERVE GENERAL GOOD HYGIENIC PRACTICES.

SEE SECTION THREE FOR OCCPATIONAL EXPOSURE LIMIT VALUES.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**APPEARANCE AND ODOR:** AMBER CLEAR LIQUID WITH SLIGHT ODOR

**BOILING POINT OR RANGE:** N/A

**VAPOR DENSITY (AIR = 1):** Not available

**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** 1.0 – 1.1

**EVAPORATION RATE:** N/A

**SOLUBILITY IN WATER:** NEGLIGIBLE

**Odor Threshold:** N/A

**pH:** N/A

**Melting point/freezing point:** N/A

**Vapor Pressure:** N/A

**Auto Ignition Temperature:** N/A

**Partition Coefficient: n-octanol/water:** N/A

**Decomposition Temperature:** N/A

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## SECTION 10: STABILITY AND REACTIVITY

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### STABILITY:

STABLE

### CONDITIONS TO AVOID (STABILITY):

AVOID CONTACT WITH OPEN FLAMES AND ALL SOURCES OF IGNITIONS AND SPARKS.

### INCOMPATIBILITY (MATERIAL TO AVOID):

AVOID CONTACT WITH STRONG OXIDIZING AGENTS OR MATERIALS





any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).  
Massachusetts Right To Know No components are subject to the Massachusetts Right to Know Act. Pennsylvania Right To Know 1-Decene, homopolymer, hydrogenated 68037-01-4 Polymer - New Jersey Right To Know 1-Decene, homopolymer, hydrogenated 68037-01-4.  
California Prop 65: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm. The product is reported in the following inventories: TSCA and Canada DSL lists.

**Component Siloxanes and silicones, di-me reactions products with silica:** Included on TSCA, EINECS, MITI, ACOIN, and Canadian DSL inventory or lists.

**Component siloxanes and silicones, di-methyl:** Included on TSCA, EINECS, MITI, ACOIN, and Canadian DSL inventory or lists.

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## SECTION 16: OTHER INFORMATION

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**DISCLAIMER:** THE INFORMATION HERE IN IS BASED ON THE DATA AVAILABLE AND IS BELIEVED TO BE ACCURATE, HOWEVER, THE MANUFACTURER MAKES NO WARRANTY EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS OBTAINED FROM THE USE THEREOF. ACCORDINGLY, WE ASSUME NO RESPONSIBILITY FOR INJURY FROM THE USE OF THIS PRODUCT.

N/A = Not Available

See Section 1 for date of preparation

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**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

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**PRODUCT NAME:** ProTek 95 Part B  
**PRODUCT CODES:** ProTek 95 Part B  
**MANUFACTURER:** Concrete Coatings, Inc.  
**STREET ADDRESS:** 1105 N. 1600 W.  
**CITY, STATE, ZIP:** Layton, UT 84041

**INFORMATION PHONE:** 801-544-8771  
**EMERGENCY PHONE:** Chemtrec 800-424-9300  
**FAX PHONE:** 801-544-5896

**PREPARED BY:** Brian Anderson

**DATE REVISED:** 3/2/16

**Chemical Name or Class:** HDI isocyanate

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**SECTION 2: HAZARDS IDENTIFICATION**

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**Hazard Overview**

**GHS Classification:** skin sensitizer category 1B, Acute toxicity inhalation category 4, Specific target organ toxicity – single exposure category 3, Acute toxicity (oral) category 4, Skin irritation category 2, Eye irritation category 2A, Carcinogenicity category 2, Respiratory Sensitization category 1, Acute hazard to aquatic environment category 3

**GHS Label Elements and Precautionary Statements:**

**Label Elements:** Exclamation Mark

**Hazard Statements:**

Warning: May cause an allergic skin reaction  
Warning: Harmful if inhaled  
Warning: May cause respiratory irritation.  
Warning: Harmful if Swallowed.  
Warning: Causes skin irritation.  
Warning: Causes serious eye irritation.  
Warning: Suspected of causing Cancer.  
Danger: May cause allergy or Asthma symptoms or breathing difficulties if inhaled.  
Harmful to aquatic life

**Precautionary statements:**

P102 Keep out of reach of children.  
P103 Read label before use  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves and clothing to prevent skin contact.  
P271 Use only outdoors or in a well-ventilated area  
P264 Wash hands thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P271 Use only outdoors or in a well-ventilated area.  
P284 Wear respiratory protection  
P273 Avoid release to the environment.

**Response**

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.  
P302 + P352 IF ON SKIN: wash with plenty of soap and water.  
P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.  
P363 Wash contaminated clothing before reuse.  
P301 + P312 IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.  
P330 Rinse mouth.  
P333 + P313 IF SKIN irritation or rash occurs: Get medical advice/attention.  
P362 + P364 take off contaminated clothing and wash it before reuse.  
P305 + P351 + P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 IF eye irritation persists: Get medical advice/attention.  
P308 + P313 IF exposed or concerned: Get medical advice/attention.  
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.

**Storage:**

P403 + P233 Store in a well ventilated place. Keep container tightly closed.  
P405 Store locked up.

**Disposal:**

# SAFETY DATA SHEET

PRODUCT CODE: 449

P501 Dispose of contents/container to a waste disposal facility in accordance with local, state, federal or international laws

## HMIS HAZARD CLASSIFICATION

HEALTH: 3      FLAMMIBILITY: 1      REACTIVITY: 1      PERSONAL PROTECTIVE EQUIPMENT: G

## POTENTIAL HEALTH EFFECTS

### EYES:

CAN CAUSE SEVERE IRRITATION, REDNESS, TEARING, OR BLURRED VISION AS WELL AS CORNEAL OPACITY AND CONJUNCTIVITIS.

### SKIN:

MAY CAUSE IRRITATION, DEFATTING AND DERMATITIS.

### INGESTION:

CAN CAUSE GASTROINTESTINAL IRRITATION, NAUSEA, VOMITTING, DIARRHEA. ASPIRATION OF MATERIAL INTO THE LUNGS CAN CAUSE CHEMICAL PNEUMONITIS WHICH CAN BE FATAL. CAN CAUSE CORROSIVE ACTION TO THE MUCOUS MEMBRANES AND DIGESTIVE TRACTS.

### INHALATION:

CAN CAUSE NAUSEA AND RESPIRATORY IRRITATION, DIZZINESS, WEAKNESS, FATIGUE, HEADACHE, AND POSSIBLE UNCONSCIOUSNESS. BURNING SENSATION TO MUCOUS MEMBRANES, SHORTNESS OF BREATH AND FLU LIKE SYMPTOMS MAY OCCUR.

### HEALTH HAZARDS (ACUTE AND CHRONIC):

CAN CAUSE SENSITIZATION BY EXPOSURE THROUGH CONTACT OR HIGH CONCENTRATIONS OF VAPOR. OVER-EXPOSURE TO THIS MATERIAL CAN CAUSE CARDIAC ABNORMALITIES. OVEREXPOSURE CAN POSSIBLY CAUSE ANEMIA, LIVER ABNORMALITIES, KIDNEY DAMAGE, OR EYE DAMAGE. MAY CAUSE ASTHMA OR OTHER RESPIRATORY DISORDERS, BRONCHITIS, EMPHYSEMA, HYPERACTIVITY, AND ECZEMA.

Chronic Inhalation: as a result of previous repeated overexposures or a single large dose of isocyanates, certain individuals will develop isocyanate sensitization (chemical asthma), which will cause them to react to a later exposure to isocyanate at levels well below the TLV or MGL. These symptoms, which include chest tightness, wheezing, cough, shortness of breath or asthma attack, could be immediate or delayed up to several hours after exposure. Similar to many nonspecific 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 several years. Chronic overexposure to isocyanates has been reported to cause lung damage, including decrease in lung function, which may be permanent. Sensitization may either be temporary or permanent.

Acute skin Contact: Isocyanates react with the skin protein and moisture and can cause irritation. Symptoms of skin irritation may be reddening, swelling, rash, scaling, or blistering. Some persons may develop skin sensitization from skin contact.

Chronic Skin contact: Prolonged contact with the isocyanate can cause reddening, swelling, rash, scaling, or blistering. In those who have developed a skin sensitization, these symptoms can develop as a result of contact with very small amounts of liquid material or even as a result of vapor-only exposure.

## MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

RESPIRATORY CONDITIONS OR OTHER ALLERGIC AILMENTS

### CARCINOGENICITY

OSHA: NO      NTP: Yes      IARC: Yes

### ADDITIONAL CARCINOGENICITY INFORMATION:

Product may contain ethyl benzene as a component of xylene (IARC 2B).

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## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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<u>INGREDIENT</u>	<u>CAS NO.</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>OSHA STEL</u>	<u>WEIGHT %</u>
HOMOPOLYMER OF HDI	28182-81-2	1mg/m3	NONE	NONE	60-100
HEXAMETHYLENE DIISOCYANATE (HDI)	822-06-0	NONE	.005 PPM	NONE	<0.5
*Xylene	1330-20-7	100PPM	100PPM	150PPM	5-10
*ethyl benzene (as a component of xylene)	100-41-4	100ppm	100ppm	125ppm	1-3
*toluene (as a component of xylene)	108-88-3	200ppm	20ppm	150ppm	<0.1

\*\*\* toxic chemicals subject to the reporting requirements of section 313 of Title III and of 40 CFR 372 are present.

**Note:** Ingredients listed without percentages, the percentages are considered a trade secret.

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## SECTION 4: FIRST AID MEASURES

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### EYES:

IMMEDIATELY FLUSH WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. GET IMMEDIATE MEDICAL ASSISTANCE.

### SKIN:

FOR EXTREME EXPOSURE USE A SAFETY SHOWER IMMEDIATELY. WASH AFFECTED AREA WITH SOAP AND WATER AND REMOVE CONTAMINATED CLOTHING PROMPTLY.

### INGESTION:

DO NOT INDUCE VOMITING KEEP PERSON WARM AND CONSULT A PHYSICIAN IMMEDIATELY. GIVE 1-2 CUPS OF MILK OR WATER TO DRINK.

### INHALATION:

REMOVE TO FRESH AIR IF EFFECTS PERSIST AND ADMINISTER OXYGEN IF NECESSARY. OBTAIN MEDICAL ASSISTANCE.



# SAFETY DATA SHEET

PRODUCT CODE: 449

ASTHMATIC TYPE SYMPTOMS MAY OCCUR IMMEDIATELY OR BE DELAYED FOR SEVERAL HOURS.

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## SECTION 5: FIRE-FIGHTING MEASURES

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**FLAMMABLE LIMITS IN AIR,**                    **UPPER:** N/A  
(% by volume)                                **LOWER:** N/A

**FLASH POINT:** >200F

**METHOD USED:**

SETA FLASH

**EXTINGUISHING MEDIA:**

FOAM, ALCOHOL FOAM, CO<sub>2</sub>, DRY CHEMICAL

**SPECIAL FIRE FIGHTING PROCEDURES:**

ENTER CONFINED AREA WITH FULL BUNKER GEAR INCLUDING A POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS. DURING A FIRE, HDI VAPORS AND OTHER HIGHLY TOXIC VAPORS MAY BE GENERATED. WATER OR EXTREME HEAT MAY CAUSE CONTAINERS TO EXPLODE.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

WATER CONTAMINATION MAY CAUSE THE GENERATION OF CO<sub>2</sub> AND CAUSE CONTAINER TO BURST OR EXPLODE. EXTREME HEAT MAY CAUSE CONTAINER TO EXPLODE. HAZARDOUS DECOMPOSITION PRODUCTS EVOLVED IN A FIRE MAY BE IRRITATING OR TOXIC.

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## SECTION 6: RELEASE MEASURES

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**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:**

WEAR RESPIRATOR AND PROTECTIVE CLOTHING. REMOVE ALL SOURCES OF IGNITIONS. REMOVE EXCESS WITH SPARK PROOF EQUIPMENT, AND THE REMAINDER WITH AN ABSORBENT SUCH AS CLAY AND PLACE IN DISPOSAL CONTAINERS. CONTAINED AIR RESPIRATOR MAY BE NECESSARY.

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## SECTION 7: HANDLING AND STORAGE

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**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:**

STORE IN COOL DRY PLACE, SEAL ALL PARTIALLY USED CONTAINERS. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR USING THE TOILET FACILITIES. MIXED MATERIALS CONTAIN THE HAZARDS OF ALL THE COMPONENTS, THEREFORE, READ THE MSDS'S OF ALL THE COMPONENTS PRIOR TO USING MATERIAL. PROPERLY LABEL ALL CONTAINERS. KEEP MATERIAL AWAY FROM ALL SOURCES OF IGNITION.

**OTHER PRECAUTIONS:**

AVOID ALL SKIN CONTACT. AVOID BREATHING VAPORS GENERATED FROM THE MATERIAL. OBSERVE CONDITIONS OF GOOD GENERAL HYGIENE AND SAFE WORKING PRACTICES. CONTAMINATED LEATHER ARTICLES CANNOT BE CLEANED AND MUST BE DISCARDED IF CONTAMINATED WITH THIS PRODUCT. WASH ALL CONTAMINATED CLOTHING PRIOR TO THE REUSE THEROF. WEAR APPROPRIATE SAFETY EQUIPMENT AND RESPIRATOR AT ALL TIMES WHEN VENTILATION IS NOT SUFFICIENT TO CONTROL VAPORS. OBSERVE OSHA REGULATIONS FOR RESPIRATOR USE (29 CFR 1910.134). WHEN SPRAYING MATERIAL AVOID EXPOSURE TO ALL MISTS GENERATED BY USING AIR SUPPLIED RESPIRATOR.

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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**RESPIRATORY PROTECTION:**

USE A NIOSH APPROVED RESPIRATOR AS REQUIRED TO PREVENT OVER-EXPOSURE TO VAPOR IN ACCORDANCE WITH 29 CFR 1910.134. ENGINEERING OR ADMINISTRATIVE MEASURES SHOULD BE TAKEN TO REDUCE THE RISK & EXPOSURE. USE A POSITIVE PRESSURE SUPPLIED AIR RESPIRATOR WHEN EXCEEDING TLV'S OR IF HDI MONOMER CONCENTRATIONS EXCEED ACCEPTABLE LIMITS OR WHEN SPRAYING MATERIAL.

**VENTILATION:**

EXHAUST VENTILATION SUFFICIENT TO KEEP AIRBORN CONCENTRATIONS OF HDI BELOW THEIR TLV AND MGL MAXIMUM. REFERS TO PATTY'S INDUSTRIAL HYGIENE & TOXICOLOGY- VOLUME 1 (3<sup>RD</sup> EDITION) CHAPTER 17 AND VOLUME III (1<sup>ST</sup> EDITION) CHAPTER 3 FOR DETAILS.

**PROTECTIVE GLOVES:**

IMPERVIOUS GLOVES, NEOPRENE OF RUBBER.

**EYE PROTECTION:**

SPLASH PROOF GOGGLES OR SAFETY GLASSES WITH SIDE SHIELDS. DO NOT WEAR CONTACT LENSES WHEN USING THIS PRODUCT.

**OTHER PROTECTIVE CLOTHING OR EQUIPMENT:**

CLEAN BODY COVERING CLOTHING AS WELL AS APRON FOOTWEAR OR OTHER EQUIPMENT SHOULD BE USED AS DEEMED NECESSARY TO AVOID CONTACT WITH THE MATERIAL.

**WORK HYGIENIC PRACTICES:**

OBSERVE GENERAL GOOD HYGIENIC PRACTICES.

SEE SECTION THREE FOR OCCPATIONAL EXPOSURE LIMIT VALUES

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**APPEARANCE AND ODOR:** PALE YELLOW LIQUID WITH MILD ODOR

**BOILING POINT OR RANGE:** N/A

**VAPOR DENSITY (AIR = 1):** Not available

**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** 1.0 – 1.1

**EVAPORATION RATE:** N/A

**SOLUBILITY IN WATER:** NEGLIGIBLE

**Odor Threshold:** N/A

**pH:** N/A

**Melting point/freezing point:** N/A

**Vapor Pressure:** N/A

**Auto Ignition Temperature:** N/A

**Partition Coefficient: n-octanol/water:** N/A

**Decomposition Temperature:** N/A

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## SECTION 10: STABILITY AND REACTIVITY

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### STABILITY:

**STABLE**

### CONDITIONS TO AVOID (STABILITY):

**AVOID EXCESSIVE HEAT OR OPEN FLAMES AS WELL AS ALL SOURCES OF IGNITIONS SUCH AS SPARKS, HEATERS, STATIC DISCHARGES, ETC.**

### INCOMPATIBILITY (MATERIAL TO AVOID):

**AVOID WATER, AMINES, STRONG BASES, ALCOHOLS, METAL COMPOUNDS, AND SURFACE ACTIVE COMPOUNDS.**

### HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:

**MAY FORM TOXIC CHEMICALS, CARBON MONOXIDE, CARBON DIOXIDE, OXIDES OF NITROGEN, HCN AND HDI.**

### HAZARDOUS POLYMERIZATION:

**MOISTURE OR MATERIALS THAT REACT WITH ISOCYANATES AND TEMPERATURES ABOVE 400 DEGREES F MAY CAUSE POLYMERIZATION.**

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## SECTION 11: TOXICOLOGICAL INFORMATION

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**COMONENT Homopolymer of HDI:** Acute Oral Toxicity LD50 >5000 mg/kg (rat). Acute Inhalation Toxicity LC50 390-453 mg/m<sup>3</sup>, aerosol, 4 hrs (rat). Acute Dermal Toxicity LD50 >5000 mg/kg (rabbit). Eye and skin irritation: Slightly irritating (rabbit, Draize). Sensitization: dermal: Sensitizer (guinea pig, Maximization test (GPMT); Dermal: non-sensitizer (guinea pig, Buehler), Inhalation: non-sensitizer (guinea pig). Repeated Dose Toxicity: 3 wks, inhalation: NOAEL: 3.7-4.3 mg/m<sup>3</sup> (rat), 90 ds, inhalation: NOAEL: 3.3 – 3.4 mg/m<sup>3</sup> (rat), irritation to lungs and nasal cavity. Mutagenicity: Genetic Toxicity in Vitro- Ames: negative (salmonella typhimurium. Metabolic Activation, with/without).

**Comonent Xylene:** Inhalation LC50 26800ppm, Skin LD50 2000 mg/kg, Ingestion LD50 4.3 g/kg. Exposure may effect skin, eye, liver, kidney, nervous system, respiratory system and lungs. High concentrations may lead to nervous system effects. Repeated overexposure has produced toxic effects in developing and young laboratory animals. Aspiration into lungs when swallowed or vomited may cause chemical pneumonitis which can be fatal. Xylene may contain ethyl benzene, and toluene. Ethyl benzene has shown limited evidence of a carcinogenic effect.

**COMPONENT Ethyl Benzene:** Acute Oral toxicity LD50: ca. 3500 mg/kg (rat); Acute inhalation LC50: 17.2 mg/l 4h (rat); Acute Dermal Toxicity: 17,800 mg/kg (rabbit); Skin Irritation rabbit Draize exposure time 24h – slightly irritating. Eye Irritation rabbit Draize – severely irritating. Sensitization dermal (human patch test) non-sensitizer. Repeated Dose toxicity 28 days inhalation NOAEL: 3.4 mg/l (rabbit). Mutagenicity Genetic Toxicity in Vitro: Ames: Negative (salmonella typhimurium, metabolic activation with/without). Carcinogenicity: Ethyl benzene was tested by inhalation exposure in mice and rats. In mice, there was an increased incidence of lung adenomas in males and liver adenomas in females. In male rats, there was an increased incidence of renal tubule adenomas and carcinomas. Two Studies of workers potentially exposed to ethyl benzene in a production plant and a styrene polymerization plant, showed no excess cancer incidence and no excess cancer mortality during a 15 year follow-up. Toxicity to Reproduction/Fertility: Inhalation (monkey, male) Reproductive effects have been observed in animal studies, In a generation study, inhalation (rat/female) NOAEL (parental): 100ppm NOAEL (F2): 100ppm. Developmental Toxicity/Teratogenicity rat, female, inhalation, gestation, daily, NOAEL (teratogenicity): 100ppm (maternal): 100ppm. Teratogenic effects seen only with maternal toxicity., Fetotoxicity seen only with maternal toxicity. Rabbit, female, inhalation, gestation, daily, NOAEL (teratogenicity) < 1000 mg/m<sup>3</sup>, NOAEL (maternal) < 1000 mg/m<sup>3</sup>.

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## SECTION 12: ECOLOGICAL INFORMATION

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**COMONENT Homopolymer of HDI:** Biodegradation: 0%, Exposure time: 28 days, not readily biodegradable. Acute and Prolonged Toxicity to fish LC0 > 100 mg/l (zebra fish, 96 h). Acute toxicity to aquatic invertebrates: EC0 > 100 mg/l (water flea, 48 h). Toxicity to aquatic plants EC50 > 1000 mg/l (green algae, 72 h). Toxicity to Microorganisms: EC50 > 1000 mg/l (activated sludge microorganisms, 3 h).

**Component Xylene:** Acute Toxicity: Fish: Toxic 1 < LCECIC50 < 10mg/l, Aquatic Invertebrates: Toxic 1 < LC/EC/IC50 <10mg/l, Algae: Toxic 1 < LC/EC/IC50 <10 mg/l. Mobility – floats on water. If it enters the soil it will be highly mobile and may contaminate groundwater. Oxidizes rapidly by photo-chemical reactions in air.

**COMPONENT Ethyl Benzene:** Biodegradation, Aerobic, 50%, Exposure time 28 days. Biochemical Oxygen demand (BOD) 5 days, 2.8% and 35 days, 1780 mg/g. Bioaccumulation: Cyprinus carpio (Carp), 15 BCF. Acute and Prolonged Toxicity to Fish LC50: 12.1 mg/l (fathead minnow, 96 h). Acute Toxicity to Aquatic Invertebrates EC50: 1.8-2.9 mg/l (water flea, 48 h). Toxicity to Aquatic Plants EC50: 4.6 mg/l (green algae, 72 h). Toxicity to microorganisms EC50: 130 mg/l (activated sludge microorganisms, 48 hr).

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**SECTION 13: WASTE DISPOSAL**

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**WASTE DISPOSAL METHOD:**

DISPOSE OF MATERIAL AS A HAZARDOUS WASTE ACCORDING TO FEDERAL, STATE, AND LOCAL REGULATIONS.

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**SECTION 14: Transport Information**

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**DOT:** Not Regulated

**IMO/IMDG:** Not Regulated

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**SECTION 15: REGULATORY INFORMATION**

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**COMPONENT Homopolymer of HDI:** OSHA hazard rating – Hazardous. Listed on the TSCA and Canada DSL lists. Component is on the Massachusetts, New Jersey, and Pennsylvania Right to Know Lists.

**COMPONENT Hexamethylene Diisocyanate:** OSHA hazard rating – Hazardous. Listed on the TSCA and Canada DSL lists. Component is on the Massachusetts, New Jersey, and Pennsylvania Right to Know Lists.

**Component Xylene:** Xylene contains EPCRA section 313 chemicals subject to the reporting requirements of the emergency planning and community right to know act of 1968. (Maximum wt % for components of xylene are: M-Xylene CAS# 108-38-3 is 46%, P-Xylene CAS# 106-42-3 is 20%, Ethyl Benzene CAS# 100-41-4 is 19%, O-Xylene CAS# 95-47-6 is 16%.. Xylene and its components are on the California Proposition 65 list for developmental toxicity, Reproductive toxicity and carcinogen list. Ingredients are on the TSCA list, DSL Canada, AICS, China, EINECS, ENCS, Korea, New Zealand, Philippines inventory lists and on the Massachusetts, New Jersey, Pennsylvania right to know lists. Ethyl Benzene a component of xylene has been designated by IARC as a possible carcinogen to humans based on increased tumor incidence in laboratory animals. risk phrases R10 Flammable R20/21 Harmful by inhalation and in contact with skin, R38 irritating to skin, S25 Avoid contact with eyes.

**COMPONENT Ethyl Benzene:** US EPA CERCLA Hazardous Substances (40 CFR 302): Ethyl Benzene reportable quantity 1000 lbs. US EPA Emergency Planning and Community Right to Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.5) components, Ethyl Benzene. California Prop 65: This product contains chemicals known to the State of California to be carcinogenic: Ethyl Benzene CAS# 100-41-4 @ 1-5%.

Massachusetts, New York, Pennsylvania Right to Know list includes the following components: Ethyl Benzene CAS# 100-41-4.

Massachusetts, New York, Pennsylvania Special hazardous Substance includes the following components: Ethyl Benzene CAS# 100-41-4

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**SECTION 16: OTHER INFORMATION**

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**DISCLAIMER:** THE INFORMATION HERE IN IS BASED ON THE DATA AVAILABLE AND IS BELIEVED TO BE ACCURATE, HOWEVER, THE MANUFACTURER MAKES NO WARRANTY EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS OBTAINED FROM THE USE THEREOF. ACCORDINGLY, WE ASSUME NO RESPONSIBILITY FOR INJURY FROM THE USE OF THIS PRODUCT.

N/A = Not Available

See Section 1 for date of preparation