

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: NP449 PART A
PRODUCT CODES: 449 A

MANUFACTURER: National Polymers Inc.
STREET ADDRESS: 9 Guttman Avenue
CITY, STATE, ZIP: Charleroi, Pa. 15022

INFORMATION PHONE: 724-483-9300
EMERGENCY PHONE: Chemtrec 800-424-9300
FAX PHONE: 724-483-9306

PREPARED BY: Harry Jackson

DATE REVISED: 11/30/15

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

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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.

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, **UPPER: N/A**
(% by volume) **LOWER: N/A**

FLASH POINT: 200+F

METHOD USED:

SETA FLASH

EXTINGUISHING MEDIA:

FOAM, ALCOHOL FOAM, CO2, 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

SECTION 6: RELEASE MEASURES

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.

SECTION 7: HANDLING AND STORAGE

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.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: AMBER CLEAR LIQUID WITH SLIGHT ODOR

BOILING POINT OR RANGE: N/A

VAPOR DENSITY (AIR = 1): Not available

SPECIFIC GRAVITY (H2O = 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

SECTION 10: STABILITY AND REACTIVITY

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****HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:****CO, CO₂, NOX, AMINES AND OTHER ALIPHATIC FRAGMENTS WHICH HAVE NOT BEEN DETERMINED.****HAZARDOUS POLYMERIZATION:****WILL NOT OCCUR**

SECTION 11: TOXICOLOGICAL INFORMATION

No data for the product itself.**Component data:**

Components CYCLOALIPHATIC DIAMINE CAS# 136210-30-5: (toxicity note: Toxicity data based on a similar product) Acute Oral Toxicity >2000 mg/kg (rat). Acute Inhalation Toxicity LC50 > 4224 mg/m³, 4 hr, (rat). Acute dermal Toxicity LD50 >2000 mg/kg (rat). Skin Irritation – irritating to skin (rabbit). Eye Irritation – slight irritant (rabbit). Sensitization Dermal: sensitizer (guinea pig, Magnusson/Kligman (maximization test)). Repeated Dose toxicity: Subacute oral toxicity: NOAEL: 1000 mg/kg (rat). Mutagenicity: Genetic Toxicity in Vitro: Salmonella/microsome test (Ames test) No indication of Mutagenic effects. Chromosome aberration test in vitro: negative. Genetic Toxicity in Vivo: Micronucleus test: negative (mouse) – negative.

Component ALIPHATIC CARBOXYLIC ESTER CAS# 623-91-6: Acute Oral Toxicity LD50 >1,780 mg/kg (rat)

Components CYCLOALIPHATIC DIAMINE CAS# 136210-32-7: Acute Oral Toxicity >2000 mg/kg (rat). Acute Inhalation Toxicity LC50 > 4224 mg/m³, 4 hr, (rat). Acute dermal Toxicity LD50 >2000 mg/kg (rat). Skin Irritation – slightly irritating to skin (rabbit). Sensitization Dermal: sensitizer (guinea pig, Magnusson/Kligman (maximization test)). Repeated Dose toxicity: Subacute oral toxicity: NOAEL: 1000 mg/kg (rat). Genotoxicity in Vitro: Salmonella/microsome test (Ames test) No indication of Mutagenic effects. Chromosome aberration test in vitro: negative. Genetic Toxicity in Vivo: Micronucleus test: negative (mouse)..

Component Isophorondiamine-isobutyraldimine CAS# 54914-37-3: Acute oral Toxicity LD50 Rat = 4150 mg/kg, Acute Dermal Toxicity LD50 Rat > 5000 mg/kg. Corrosive, subcategory 1C – where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days – Method OECD test guideline 404. Irritating to the eyes of a rabbit – method OECD test guideline 405. Product Sensitization: (Magnussobn-Kligman test) guinea pig: May cause sensitization by skin contact – Method OECD test guideline 406.

Component 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/m³, NOAEL (maternal) < 1000 mg/m³.

Component CAS# 19549-80-5: LD50 oral (rat) > 2300 mg/kg. LC50 (6 hr inhalation, rat) = 1979 ppm.

Component CAS# 64742-95-6: LD50 dermal (rabbit) > 3480 mg/kg. LC50 (4 hr inhalation, rat) = 5193 ppm.

Component CAS# 68037-01-4: Acute oral toxicity LD50 (Rat): > 2,000 mg/kg; Acute inhalation toxicity LC50 (Rat): > 5,000 mg/m³; Acute dermal toxicity LD50 (Rabbit): > 2,000 mg/kg. Skin Corrosion, Irritation - Species: Rabbit, Result: No skin irritation. Serious eye damage/eye irritation: Result: Mild eye irritation. Carcinogenicity IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

SECTION 12: ECOLOGICAL INFORMATION

No data for the product itself.**Component data:**

Component CYCLOALIPHATIC DIAMINE CAS# 136210-30-5 : (toxicity note: Toxicity data based on a similar product) 13% Exposure time: 28 days, i.e., not readily degradable (based on a comparable product). Acute and Prolonged Toxicity to fish: LC50: 66 mg/l (Danio rerio (zebra fish), 96 hr). Acute Toxicity to Aquatic Invertebrates EC50: 88.6 mg/l (water flea), 48 hr). Toxicity to Aquatic Plants IC50: 113 mg/l (Scenedesmus subspicatus, 72 hr). Toxicity to Microorganisms EC50: 3110 mg/l (activated sludge, 3 hr) .

Component ALIPHATIC CARBOXYLIC ESTER CAS# 623-91-6: Biodegradation: 92-95%, i.e., readily biodegradable. Acute and Prolonged Toxicity to Fish LC50: 38 mg/l (fathead minnow, 96 hr).

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Component CYCLOALIPHATIC DIAMINE CAS# 136210-32-7 : Acute and Prolonged Toxicity to fish: LC50: 66 mg/l (Danio rerio (zebra fish), 96 hr). Acute Toxicity to Aquatic Vertabras EC50: 88.6 mg/l (water flea), 48 hr). Toxicity to Aquatic Plants IC50: 113 mg/l (scenedesmus subspicatus, 72 hr). Toxicity to Microorganisms EC50: 3110 mg/l (activated sludge, 3 hr). Acute Toxicity to Algae IC50: 113 mg/l (scenedesmus subspicatus, 72 hr). Toxicity to Soli Dwelling Organisms NOEC (Mortality) . 1000 mg/kg (earthworms, 14 days). Toxicity to terrestrial plants NOEC (seeding emergence) > 100 mg/kg (Avena sativa, cats) Ecotoxicology Assessment: Harmful to aquatic organisms. May cause long term adverse effects in the aquatic environment. Because of the low bacterial toxicity, there is no risk of an adverse effect on the performance of biological waste water treatment plants. Biodegradability: 13%, 28 d, i.e., not readily biodegradable. Bioconcentration factor (BCF): value calculated 8.228 – The substance hydrolyzes rapidly in water, an accumulation in aquatic organisms is not to be expected.

Component Isophorondiamine-isobutyraldimine CAS# 54914-37-3: Biodegradability: 42% - Method OECD 303A. Not readily biodegradable – 8% - Method EC 79/831. Readily biodegradable – 96% - Method OECD 301E (related to substance). Toxicity to fish: LC50 Brachydanio rerio: 110 mg/l/96 hr and LC50 Leuciscus idus melanotus: 86 mg/l/24 hr. Toxicity to daphnia: EC50 Daphnia magna: 23 mg/l/48 hr. Toxicity to algae: EC50 scenedesmus subspicatus: 84 mg/l/72 hr and ErC50 scenedesmus subspicatus: 50 mg/l/72 hr. Bioaccumulation: In view of the relatively low octanol/water coefficients of distribution, no significant accumulation in organisms is to be expected. The soil mobility is only minimally affected by adsorption to soil components. The substance will mainly occur in bodies of water due to its environmental distribution characteristics. The effects of light decompose the substance rapidly in the atmosphere.

Component Xylene: Acute Toxicity: Fish: Toxic 1 < LC/EC/IC50 < 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).

Component CAS# 64742-95-6 Toxic to aquatic organisms.

Component CAS# 68037-01-4: Ecotoxicity Toxicity to fish : Remarks: No data available Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available Persistence and degradability Biodegradability : Remarks: No data available. Bioaccumulative potential: Bioaccumulation : Remarks: No data available Mobility in soil No data available Other adverse effects: Results of PBT and vPvB assessment : This substance contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 13: WASTE DISPOSAL

WASTE DISPOSAL METHOD:

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

SECTION 14: Transport Information

DOT: Not Regulated

IMO/MDG: Not Regulated

SECTION 15: REGULATORY INFORMATION

No data for the product itself.

Component data:

Component CYCLOALIPHATIC DIAMINE CAS# 136210-30-5 : OSHA Hazard rating : Hazardous. Component is listed on the TSCA and Canada DSL lists. Component is listed on the Pennsylvania, Massachusetts and New Jersey Right to know lists.

Component ALIPHATIC CARBOXYLIC ESTER CAS# 623-91-6: OSHA Hazard rating : Hazardous. Component is listed on the TSCA and Canada DSL lists. Component is listed on the Pennsylvania, Massachusetts and New Jersey Right to know lists.

Component CYCLOALIPHATIC DIAMINE CAS# 136210-32-7 : OSHA Hazard rating : Hazardous. Component is listed on the TSCA and Canada DSL lists. Component is listed on the Pennsylvania, Massachusetts and New Jersey Right to know lists.

Component Isophorondiamine-isobutyraldimine CAS# 54914-37-3: Component is on the TSCA, EINECS, AICS, PICCS, DSL, MITI 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, Phillipines 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

Component CAS# 108-83-8: Component is on the TSCA list and Canada DSL.

Component CAS# 19549-80-5: Component is on the TSCA list and Canada DSL.

Component NJTSRN 800963-549: Component is on the TSCA list and Canada DSL.

Component CAS# 64742-95-6 This product is a hazardous chemical . This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372 Component

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1,2,4-trimethylbenzene CAS# 95-63-6 at < 15% and trace amounts of benzene CAS# 71-43-2. . Benzene is known to the state of California to cause cancer and birth defects or other reproductive harm and is on the Prop 65 list. Component is on the TSCA and Canada DSL lists
Component is on the TSCA list as well as the AICS, DSL, ECL, EINECS, ENCS, IECSC and PICCS lists

Component CAS# 68037-01-4: SARA 302 Extremely Hazardous Substances Reportable Quantity This material does not contain any components with a SARA 302 RQ. SARA 311/312 Hazards: No SARA Hazards SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302. SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313. Clean Air Act This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61). This product does not contain 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.

SECTION 16: OTHER INFORMATION

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

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: NP449 PART B
PRODUCT CODES: 449 B

MANUFACTURER: National Polymers Inc.
STREET ADDRESS: 9 Guttman Avenue
CITY, STATE, ZIP: Charleroi, Pa. 15022

INFORMATION PHONE: 724-483-9300
EMERGENCY PHONE: Chemtrec 800-424-9300
FAX PHONE: 724-483-9306

PREPARED BY: Harry Jackson

DATE REVISED: 11/30/15

Chemical Name or Class: HDI isocyanate

SECTION 2: HAZARDS IDENTIFICATION**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, Health hazard

**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.

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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:

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).

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>
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.

SECTION 4: FIRST AID MEASURES

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

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

SECTION 5: FIRE-FIGHTING MEASURES

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

FLASH POINT: >200F

METHOD USED:

SETA FLASH

EXTINGUISHING MEDIA:

FOAM, ALCOHOL FOAM, CO2, 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 CO2 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.

SECTION 6: RELEASE MEASURES

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.

SECTION 7: HANDLING AND STORAGE

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.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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 (3RD EDITION) CHAPTER 17 AND VOLUME III (1ST 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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: PALE YELLOW LIQUID WITH MILD ODOR
BOILING POINT OR RANGE: N/A
VAPOR DENSITY (AIR = 1): Not available
SPECIFIC GRAVITY (H₂O = 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

SECTION 10: STABILITY AND REACTIVITY

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.

SECTION 11: TOXICOLOGICAL INFORMATION

COMONENT Homopolymer of HDI: Acute Oral Toxicity LD50 >5000 mg/kg (rat). Acute Inhalation Toxicity LC50 390-453 mg/m³, 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: NOEL: 3.7-4.3 mg/m³ (rat), 90 ds, inhalation: NOEL: 3.3 – 3.4 mg/m³ (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 NOEL: 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) NOEL (parental): 100ppm NOEL (F2): 100ppm. Developmental Toxicity/Teratogenicity rat, female, inhalation, gestation, daily, NOEL (teratogenicity): 100ppm (maternal): 100ppm. Teratogenic effects seen only with maternal toxicity., Fetotoxicity seen only with maternal toxicity. Rabbit, female, inhalation, gestation, daily, NOEL (teratogenicity) < 1000 mg/m³, NOEL (maternal) < 1000 mg/m³.

SECTION 12: ECOLOGICAL INFORMATION

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).

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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).

SECTION 13: WASTE DISPOSAL

WASTE DISPOSAL METHOD:

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

SECTION 14: Transport Information

DOT: Not Regulated

IMO/IMDG: Not Regulated

SECTION 15: REGULATORY INFORMATION

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, Phillipines 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

SECTION 16: OTHER INFORMATION

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