MATERIAL SAFETY DATA SHEET

PRODUCT CODE: 321

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: HPU 747 High Performance Urethane (clear)
PRODUCT CODES: 321A (HPU 747 A)

MANUFACTURER: National Polymers / Norkan.
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: 05/15/13

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO.	OSHA PEL	ACGIH TLV	OSHA STEL	WEIGHT %
Propylene Glycol Monomethyl Ether Acetate	108-65-6	none	none	none	
Saturated Polyester Polyol (non-hazardous)	unknown	none	none	none	
Saturated Polyester Resin (non-hazardous)	unknown	none	none	none	
Proprietary Additives (non-hazardous)	unknown	none	none	none	
*Xylene	1330-20-7	100 ppm	100 ppm	150 ppm	<0.5%
2,6-Dimethyl-4-Heptanone	108-83-8	25 ppm	25 ppm	none	
*Ethyl benzene	100-41-4	100 ppm	100 ppm	125 ppm	<0.5%
Dibutylin Dilurate	77-58-7	0.1mg / m3	0.1mg / m3	0.1mg / m3	
Methyl N-Amyl Ketone	110-43-0	100 ppm	50 ppm	none	
Cellulose Acetate Butyrate Ester	9004-36-8	none	none	none	
Ethyl 3-Ethoxypropionate	763-69-9	none	none	none	
Copper Phthalocyanate	147-14-8	none	none	none	
Carbon black	1333-86-4	3.5 ppm	3.5 ppm	none	

SECTION 2 NOTES: *Indicates toxic chemical(s) subject to reporting requirements of section 313 of Title III and of 40 CFR 372. All components are on the TSCA list
Xylene Stel= 150PPM (ACGIH) Methyl N-Amyl Ketone Stel (ACGIH)= 100PPM

SECTION 3: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: low viscosity liquid with ketone solvent odor.
BOILING POINT OR RANGE: 279 to 329F
VAPOR DENSITY (AIR = 1): not available
SPECIFIC GRAVITY (H2O = 1): 1.0
EVAPORATION RATE: not available
SOLUBILITY IN WATER: negligible

SECTION 3 NOTES:

SECTION 4: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR, (% BY VOLUME) UPPER: not available; LOWER: not available

FLASH POINT: 100F
METHOD USED:
Seta Flash
EXTINGUISHING MEDIA:
Foam, alcohol foam, CO2, dry chemical, water fog.
SPECIAL FIRE FIGHTING PROCEDURES:
Do not enter confined fire area without full bunker gear including a positive pressure NIOSH approved self-contained breathing apparatus. Cool all fire exposed containers with water. Minimize contact with material.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
Closed containers may explode when exposed to extreme heat. Solvent vapors may be heavier than air. Under conditions of stagnant air, vapors may build up and travel along the ground to an ignition source which can result in flash back to the source of the vapors. Toxic vapors could be evolved from the combustion of this material.

SECTION 4 NOTES:

SECTION 5: STABILITY AND REACTIVITY

STABILITY:
stable
CONDITIONS TO AVOID (STABILITY):
Avoid excessive heat or open flames. This material should not be mixed with phosphorous containing material or oxidizers.
INCOMPATIBILITY (MATERIAL TO AVOID):
Can react Vigorously with strong oxidizing agents and phosphorous containing materials.
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:
carbon monoxide and carbon dioxide.
HAZARDOUS POLYMERIZATION:
Will not occur.

SECTION 5 NOTES:

SECTION 6: HAZARDS IDENTIFICATION

HMIS HAZARD CLASSIFICATION
HEALTH: 2 FLAMMIBILITY: 3 REACTIVITY: 0 PERSONAL PROTECTIVE EQUIPMENT: G

POTENTIAL HEALTH EFFECTS
EYES:
May cause corneal damage if left untreated which is slow to heal but usually reversible.
SKIN:
May cause irritation or allergic response. May cause defatting, dryness, cracking, rash or redness or dermatitis.
SKIN ABSORPTION:
Solvents can penetrate the skin causing effects similar to those for acute inhalation symptoms.
INGESTION:
Can cause irritation to the digestive tract including sore throat, abdominal pain, nausea, vomiting and diarrhea.
Vomiting may Cause Aspiration of solvents resulting in chemical pneumonitis.
INHALATION health risks and symptoms of exposure:
Solvent vapors are irritating to the eyes, nose and throat and respiratory
tract resulting in dryness of the throat and tightness in the chest. Other symptoms include headache, nausea, narcosis, fatigue and loss of appetite.
HEALTH HAZARDS (ACUTE AND CHRONIC):
Chronic Exposure to organic solvents has been associated with various neurotoxic effects including brain damage, nervous system damage or death. Prolonged vapor contact may cause conjunctivitis. Chronic inhalation may also include loss of memory, loss of intellectual ability and loss of coordination. Corneal damage is possible but usually reversible. Repeated Exposure to solvents can cause anemia, liver abnormalities, kidney damage or cardiac abnormalities.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
Respiratory conditions or other allergic response.
CARCINOGENICITY
OSHA: NO NTP: NO IARC: NO
ADDITIONAL CARCINOGENICITY INFORMATION:
No listed ingredients of this product are regulated as carcinogens.

SECTION 7: FIRST AID MEASURES

EYES:
Flush eyes with water for at least fifteen minutes and consult a physician.
SKIN:
Wash affected area with soap and water and remove contaminated clothing promptly.
INGESTION:
Do not induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.
INHALATION:
Remove victim to fresh air area and administer oxygen if necessary. Consult a physician if necessary.

SECTION 7 NOTES:

SECTION 8: RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:
Remove all sources of ignition and ventilate the area. Wear appropriate protective equipment such as vapor cartridge or air supplied respirator when necessary. Dike and absorb the material with absorbent such as clay and place in disposal containers.

SECTION 8 NOTES:

SECTION 9: WASTE DISPOSAL

WASTE DISPOSAL METHOD:
Dispose of the material in a waste disposal site in accordance with local, state, and federal laws. Empty containers should be handled with care due to product residue and possible vapor from organic solvents. Never use a gas or electric torch to cut the drums.

SECTION 10: HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
Store in cool dry area. 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 the material. Properly label all containers.
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 thereof. Supply appropriate ventilation or engineering controls prior to using this product.

SECTION 10 NOTES:

SECTION 11: 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. Use a positive pressure respirator when airborne concentrations are not known or if exceeding TLV's or if working in a confined space. Always consider the hazards from all components in the mixed material state.
VENTILATION :
Exhaust ventilation sufficient to keep the airborne concentrations of the solvents and other hazardous materials below the toxic level concentrations.
PROTECTIVE GLOVES:
Impervious gloves – neoprene or rubber.
EYE PROTECTION:
Splash goggles or glasses with side shields. If the environment warrants, a full face shield should be employed.
OTHER PROTECTIVE CLOTHING OR EQUIPMENT:
Wear body covering clothing and other coverings as necessary such as an apron and appropriate footwear to avoid contact.
WORK HYGIENIC PRACTICES:
Observe good general hygienic practices.

SECTION 11 NOTES:

SECTION 12: TRANSPORTATION

DOT CLASSIFICATION: **Part A "FLAMMABLE LIQUID N.O.S., 3, UN1993, PGIII"**
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SECTION 13: DISCLAIMER

DISCLAIMER: **The information Contained herein 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.

MATERIAL SAFETY DATA SHEET

PRODUCT CODE: 321

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: HPU 747 High Performance Uretahne part B
PRODUCT CODES: 321B (HPU 747 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: 9/15/05

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	CAS NO.	OSHA PEL	ACGIH TLV	OSHA STEL	WEIGHT %
Hopolymer of HDI	28182-81-2	1 mg/m3	NONE	NONE	
*Xylene	1330-20-7	100 PPM	100 PPM	150 PPM	12
n-Butyl Acetate	123-86-4	150 PPM	150 PPM	200 PPM	
Hexamethylene Diisocyanate (HDI)	822-06-0	NONE	.005 PPM	NONE	

*Indicates toxic chemical (s) subject to the reporting requirements of section 313 Title III and of 40 CFR 372. XYLENE ACGIH STEL= 150PPM. FOR HDI: ORAL LD50> 10,000 mg/kg (RATS), INHALATION LC50 RANGES FROM 137 TO 1150 mg/m3, EYE IRRITATION SCORE 54.6/110 FOR A 24 HOUR EXPOSURE, SKIN EXPOSURE- MODERATE IRRITANT IRRITATION SCORE 3.4/8 (RABBIT)

SECTION 3: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Pale yellow liquids with solvent odor

BOILING POINT OR RANGE: 279 ^{0} F

VAPOR DENSITY (AIR = 1): not available

SPECIFIC GRAVITY (H2O = 1): 1.1

EVAPORATION RATE: not available

SOLUBILITY IN WATER: negligible

SECTION 3 NOTES:

SECTION 4: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR, (% BY VOLUME) **UPPER:** not available **LOWER:** not available

FLASH POINT: 91F

METHOD USED:
Seta Flash
EXTINGUISHING MEDIA:
Foam, alcohol foam, CO2, dry chemical
SPECIAL FIRE FIGHTING PROCEDURES:
Do not enter confined fire area without full bunker gear including a positive pressure NIOSH approved self-contained breathing apparatus. Presence of solvents in product may require grounding. Remove all sources of ignition.
UNUSUAL FIRE AND EXPLOSION HAZARDS:
If fire occurs, solvents may produce excessive pressure. Sealed drums may rupture and ignite. Vapors are heavier than air and may travel along the ground and ignite by any source of ignition. During a fire, HDI vapors and other toxic gasses may be evolved. Containers may burst if contaminated with water. Vapor flashback to source is possible.

SECTION 4 NOTES:

SECTION 5: STABILITY AND REACTIVITY

STABILITY:
stable

CONDITIONS TO AVOID (STABILITY):
Avoid excessive heat or open flames as well as all sources of ignition 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 dioxide carbon monoxide, 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 5 NOTES:

SECTION 6: HAZARDS IDENTIFICATION

HMIS HAZARD CLASSIFICATION
HEALTH: 2 FLAMMIBILITY: 3 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 dermattitis.
SKIN ABSORPTION:
Can cause reddening, swelling, rash, scaling or blistering. Overexposure may cause sensitization resulting in reaction to contact of small amounts.
INGESTION:
Can cause gastrointestinal irritation, nausea, vomiting, diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis which can be fatal. Can cause corrosive action to mucous membranes and digestive tracts.
INHALATION health risks and symptoms of exposure:
Can cause nausea and respiratory irritation, dizziness, weakness, fatigue, nausea, 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.
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:
Respiratory conditions or other allergic response.
CARCINOGENICITY
OSHA: NO NTP: NO IARC: NO

SECTION 7: FIRST AID MEASURES

EYES:
Flush eyes with water for at least fifteen minutes and consult a physician.
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 or milk or water to drink.
INHALATION:
Remove victim to fresh air area and administer oxygen if necessary. Obtain medical assistance, asthmatic type symptoms may occur immediately or be delayed for several hours. Treatment is symptomatic.

SECTION 7 NOTES:

SECTION 8: 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 8 NOTES:

SECTION 9: WASTE DISPOSAL

WASTE DISPOSAL METHOD:
Dispose of the material in a waste disposal site in accordance with local, state, and federal laws.

SECTION 10: 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 thereof. 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 10 NOTES:

SECTION 11: 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 and 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 airborne concentrations of HDI below their TLV and MGL maximum. Refer to Patty's Industrial Hygiene and Toxicology- Volume 1 (3rd edition) Chapter 17 and Volume III (1st edition) Chapter 3 for details.
PROTECTIVE GLOVES:
Impervious gloves – neoprene or rubber.
EYE PROTECTION:
Splash goggles or glasses with side shields. Do not wear contact lenses when using this product.
OTHER PROTECTIVE CLOTHING OR EQUIPMENT:
Wear body covering clothing and other coverings as necessary such as an apron and appropriate footwear to avoid contact.
WORK HYGIENIC PRACTICES:
Observe good general hygienic practices.

SECTION 11 NOTES:

SECTION 12: TRANSPORTATION

DOT CLASSIFICATION: **Part** A **"FLAMMABLE LIQUID N.O.S., 3, UN1993, PGIII"**

SECTION 13: DISCLAIMER

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