MATERIAL SAFETY DATA SHEET

HTS 554 PT A WHITE

PRODUCT NAME: HTS 554 PT A WHITE

PRODUCT CODE: EF-102

Page: 1
TE HMIS CODES: H F R P

MANUFACTURER'S NAME: HESTERMAN TECHNICAL SERVICES

ADDRESS

: 190 HODSMAN ROAD

REGINA, SASK, CANADA S4N 5X4

INITIAL (FIRST CALL)

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INFORMATION PHONE : (306) 721-1339 NAME OF PREPARER : HESTERMAN TECHNICAL SERVICES

VÁPOR PRESSURE WEIGHT
REPORTABLE COMPONENTS CAS NUMBER mm Hg @ TEMP PERCENT

* XYLENE (MIXED ISOMERS) 1330-20-7 5.1 68F/20C 15

XYLENE (MIXED ISOMERS), CAS# 1330-20-7, 75%+/-5%, ACGIH TLV-100PPM TWA, STEL-150PPM, OSHA PEL-100PPM, STEL150PPM. #TOLUENE CAS#108-88-3, 0.3-1.5%, ACGIH TLV-50 PPM TWA (SKIN), OSHA PEL-100 PPM TWA, STEL-150 PPM.
NOTE: FLASH POINT MAY VARY FROM 80F/26.7C TO 76F/24.4C TCC DUE TO RAW MATERIAL VARIABLES. VAPOR PRESSURE
IS 21MM HG @ 100F/37.8C.

* DICYCLOHEXYLMETHANE-4,4'-DIISOCYANATE 5124-30-1 1X10-3 77F/25C 15
DICYCLOHEXYLMETHANE-4,4'-DIISOCYANATE, CAS#5124-30-1(100%): OSHA, CEILING 0.010PPM. ACGIH, TWA-0.005PPM.

ALUMINUM TRIHYDROXIDE 21645-51-2
OSHA PEL - 10MG/M3 (DUST), ACGIH - 10MG/M3 (DUST).

SILICON DIOXIDE (CRYSTALLINE SILICA) 14808-60-7 N/A N/A 9.7

OSHA PEL: EXPOSURE TO AIRBORNE CRYSTALLINE SILICA SHALL NOT EXCEED AN 8 HOUR TIME WEIGHTED AVERAGE LIMIT AS STATED IN 29CFR1910.1000, TABLE Z-1-A AIR CONTAMINATES, SPECIFICALLY; SILICA, CRYSTALLINE QUARTZ (RESPIRABLE) 0.1 MG/M3. ACGIH TLV-TWA: CRYSTALLINE QUARTZ (RESPIRABLE DUST) 0.1 MG/M3. NIOSH MAXIMUM PERMISSIBLE CONC. 0.05 MG/M3, 10 HR. WORK DAY, 40 HR. WEEK.

N/A

TITANIUM DIOXIDE 13463-67-7 N/A N/A 9
TITANIUM DIOXIDE, 86-97%, CAS#13463-67-7, ACGIH TLV-10MG/M3, TOTAL DUST TWA, OSHA PEL-15MG/M3, TOTAL DUST,

TITANIUM DIOXIDE, 86-97%, CAS#13463-67-7, ACGIH TLV-10MG/M3, TOTAL DUST TWA, OSHA PEL-15MG/M3, TOTAL DUST, 8 HR TWA, AEL(ACCEPTABLE EXPOSURE LIMIT) OF 10MG/M3, TOTAL DUST 8 HR TWA, 5MG/M3 RESPIRABLE DUST 8 HR TWA. (AEL IS THE EXPOSURE LIMIT RECOMMENDED BY THE MANUFACTURER OF THIS CHEMICAL).ALUMINUM HYDROXIDE, CAS#21645-51-2, 1-5%, NO EXPOSURE LIMITS ESTABLISHED.

* ETHYLBENZENE 100-41-4 5.1 68F/20C 5 ETHYLBENZENE, CAS# 100-41-4, 25%+/-5%, AGCHI: TLV-100PPM, STEL-125PPM. OSHA PEL-100PPM, STEL-125PPM.

ETHYL 3-ETHOXYPROPIONATE 763-69-9 0.67 68F/20C 4

NO OCCUPATIONAL EXPOSURE LIMITS HAVE BEEN ESTABLISHED FOR THIS CHEMICAL. THE MANUFACTURER OF THIS CHEMICAL SUGGESTS A GUIDELINE OF 50PPM TWA, 100PPM STEL.

#* DECABROMODIPHENYLOXIDE (DBDPO) 1163-19-5 N/A N/A 2.7
EXPOSURE LIMITS NOT ESTABLISHED BY ACGIH OR OSHA. AIHA WEEL (WORKPLACE ENVIRONMENTAL EXPOSURE LEVEL) 5
MG/M3 8 HOUR TWA.

HYDROPHOBIC AMORPHOUS FUMED SILICA (SILOXANES & SILICONES)

67762-90-7 N/A N/A

AMORPHOUS SILICA, SILOXANES & SILICONES, CAS#67762-90-7, 99.8% HAS AN OSHA PEL OF 20 MPPCF (MILLION PARTICLES PER CUBIC FOOT OF AIR), AS LISTED IN CFR 1910.1000, TABLE Z-3. THE TLV IS 10MG/M3 FOR PARTICULATES NOT OTHERWISE CLASSIFIED.

PTSI, TOSYL ISOCYANATE 4083-64-1 1.0 212F/100C 1

PTSI: (98.0% MINIMUM) NO EXPOSURE GUIDELINES ESTABLISHED. (SEE BELOW)

MONOCHLOROBENZENE: CAS #108-90-7, (1.0% MAXIMUM) TLV = 75PPM. TOSYL CHLORIDE p-TOLUENESULFONYL CHLORIDE: CAS #98-59-9, (1.1% MAXIMUM) NO EXPOSURE GUIDELINES ESTABLISHED. ACGIH GUIDELINE FOR MDI IS .005 PPM TLV.

#* ANTIMONY TRIOXIDE (WITH ARSENIC @<.4% CAS#7440-38-2)1309-64-4NO DATA N/A 1.1
ANTIMONY OXIDE, CAS#1309-64-4, 99.5%, ACGIH-0.5MG/M3 TWA AS ANTIMONY. OSHA PEL-0.5MG/M3 AS ANTIMONY.
ARSENIC, CAS#7440-38-2, <0.1%, ACGIH-0.1MG/M3 TWA AS ARSENIC, OSHA PEL-0.1MG/M3 AS ARSENIC.

- * Indicates toxic chemical(s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372.
- # INDICATES CARCINOGENIC CHEMICAL. THE HAZARDS OF BOTH PART A AND PART B WILL BE EXHIBITED WHEN BOTH PARTS ARE COMBINED. THIS MSDS MAY BE USED FOR OTHER COLORS AND CONTAINER SIZES OF THIS PRODUCT.

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BOILING RANGE: 282F/138.9C - 2980+/-60C SPECIFIC GRAVITY (H2O=1): 1.34
VAPOR DENSITY: HEAVIER THAN AIR EVAPORATION RATE: SLOWER THAN ETHER

COATING V.O.C.: 2.71 lb/gl COATING V.O.C.: 325 g/l MATERIAL V.O.C.: 325 g/l MATERIAL V.O.C.: 325 g/l

SOLUBILITY IN WATER: REACTS SLOWLY TO LIBERATE CO2, SLIGHTLY SOLUBLE.

APPEARANCE AND ODOR: MODERATELY VISCOUS PIGMENTED LIQUID, VARIOUS COLORS, AROMATIC ODOR.

FLASH POINT: 80F/26C SETA FLASH CLOSED CUP.

FLAMMABLE LIMITS IN AIR BY VOLUME- LOWER: 1% UPPER: 7%

EXTINGUISHING MEDIA: FOAM, CO2, DRY CHEMICAL, WATER FOG OR SPRAY, AS APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIREFIGHTING PROCEDURES

DO NOT ENTER ANY ENCLOSED OR CONFINED FIRE SPACE WITHOUT FULL PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS (PRESSURE-DEMAND OSHA/NIOSH APPROVED OR EQUIVALENT) TO PROTECT AGAINST THE HAZARDOUS EFFECTS OF COMBUSTION PRODUCTS AND OXYGEN DEFICIENCY.

UNUSUAL FIRE AND EXPLOSION HAZARDS

VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG GROUND AND BE IGNITED BY PILOT LIGHTS, SPARKS, SMOKING, STATIC DISCHARGE, HEATERS OR OTHER SOURCES OF IGNITION AT LOCATIONS DISTANT FROM MATERIAL HANDLING POINT. ISOCYANATE VAPORS AND OTHER IRRITATING, HIGHLY TOXIC GASES MAY BE GENERATED BY THERMAL DECOMPOSITION OR COMBUSTION. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT OR BURST WHEN CONTAMINATED WITH WATER DUE TO THE EVOLUTION OF CARBON DIOXIDE GAS.

SECTION V - REACTIVITY DATA -----

STABILITY: STABLE

CONDITIONS TO AVOID

AVOID HEAT, SPARKS, OPEN FLAME AND OTHER IGNITION SOURCES, EXTREME HEAT CONDITIONS AND WATER CONTACT. REACTION WITH WATER CAN RESULT IN PRESSURE BUILDUP OF THE CONTAINER RESULTING IN RUPTURE OF THE CONTAINER.

INCOMPATIBILITY (MATERIALS TO AVOID)

AVOID WATER, ALCOHOL, AMMONIA, AMINES, ALKALIES AND ACIDS. SOME REACTIONS CAN BE VIOLENT.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS

PRODUCTS OF COMBUSTION INCLUDE ISOCYANATE VAPOR & MIST, CARBON MONOXIDE, CARBON DIOXIDE, HYDROGEN CYANIDE, NITROGEN OXIDES AND OXIDES AND UNIDENTIFIED PRODUCTS IN FUMES AND SMOKE.

HAZARDOUS POLYMERIZATION: MAY OCCUR. CONTACT WITH MOISTURE OR OTHER MATERIALS WHICH REACT WITH ISOCYANATE MAY CAUSE POLYMERIZATION.

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

REPEATED OR PROLONGED EXPOSURE TO VAPORS OR MISTS ARE IRRITATING TO THE EYES AND THE RESPIRATORY TRACT. MAY CAUSE HEADACHES, DIZZINESS, ANESTHESIA, DROWSINESS, UNCONSCIOUSNESS AND OTHER CENTRAL NERVOUS SYSTEM EFFECTS, INCLUDING DEATH. INHALATION OF VAPORS AND MISTS OF ISOCYANATE AT CONCENTRATIONS ABOVE RECOMMENDED EXPOSURE LIMITS CAN IRRITATE THE MUCOUS MEMBRANES IN THE RESPIRATORY TRACT NOSE, THROAT, LUNGS) CAUSING RUNNY NOSE, SORE THROAT, COUGHING, CHEST DISCOMFORT, SHORTNESS OF BREATH AND REDUCED LUNG FUNCTION. PERSONS WITH A PREEXISTING, NONSPECIFIC BRONCHIAL HYPER REACTIVITY CAN RESPOND TO CONCENTRATIONS BELOW THE INTENDED RECOMMENDED EXPOSURE LEVEL WITH SIMILAR SYMPTOMS AS WELL AS AN ASTHMA ATTACK. EXPOSURE TO HIGHER LEVELS MAY LEAD TO BRONCHITIS, BRONCHIAL SPASM AND PULMONARY EDEMA (FLUID IN THE LUNGS). THESE EFFECTS ARE USUALLY REVERSIBLE. CHEMICAL OR HYPERSENSITIVE PNEUMONITIS, WITH FLU-LIKE SYMPTOMS (e.g., FEVER, CHILLS) HAS ALSO BEEN REPORTED.

SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE

SKIN: SENSITIZATION AND IRRITATION MAY DEVELOP AFTER REPEATED AND/OR PROLONGED CONTACT WITH HUMAN SKIN. EYES: CONTACT WITH EYES MAY LEAD TO IRRITATION AND TEARING. ISOCYANATE IS REPORTED TO INDUCE CHEMICAL BURNS IN RABBIT EYE STUDIES. A SIMILAR DEGREE OF EYE INJURY MAY DEVELOP AFTER CONTACT WITH HUMAN EYES.

SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

SKIN ABSORPTION IS BELIEVED TO GENERALLY BE TOO SLOW TO PRODUCE SIGNS OF ACUTE SYSTEMIC POISONING. HOWEVER, ANIMAL STUDIES HAVE SHOWN THAT RESPIRATORY SENSITIZATION CAN BE INDUCED BY SKIN CONTACT WITH KNOWN RESPIRATORY SENSITIZERS, INCLUDING ISOCYANATES. ISOCYANATES ARE A PRIMARY SKIN IRRITANT--THEY REACT WITH SKIN PROTEIN AND MOISTURE AND CAN CAUSE IRRITATION. SYMPTOMS CAN INCLUDE: REDNESS, SWELLING, RASH, SCALING OR BLISTERING. ISOCYANATES ARE ALSO STRONG SKIN SENSITIZERS. EXPERIENCE INDICATES THAT DIRECT SKIN CONTACT IS THE ROUTE OF EXPOSURE MOST LIKELY TO CAUSE SKIN SENSITIZATION. ONCE SENSITIZED, AN INDIVIDUAL MAY REACT EVEN TO AIRBORNE LEVELS BELOW THE TLV WITH THE FOLLOWING SYMPTOMS; ITCHING AND TINGLING OF THE EARLOBES AND NECK, RASH, HIVES, SWELLING OF THE ARMS AND LEGS OR OTHER SYMPTOMS COMMON TO ALLERGIC DERMITITUS. THESE SYMPTOMS MAY BE IMMEDIATE OR DELAYED SEVERAL HOURS. PROLONGED CONTACT 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.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

INGESTION: OBTAIN MEDICAL ATTENTION IMMEDIATELY. DO NOT INDUCE VOMITING. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GUARD AGAINST ASPIRATION INTO THE LUNGS BY HAVING THE INDIVIDUAL TURN ON TO THEIR LEFT SIDE. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. ASPIRATION OF MATERIAL INTO THE LUNGS CAN CAUSE CHEMICAL PNEUMONITIS, WHICH CAN BE FATAL. INGESTION CAN RESULT IN IRRITATION OR CHEMICAL BURNS OF THE MOUTH, PHARYNX, ESOPHAGUS AND STOMACH/DIGESTIVE TRACT. INJURY MAY BE SEVERE AND CAUSE DEATH. KEEP PERSON WARM AND QUIET.

HEALTH HAZARDS (ACUTE AND CHRONIC)

EUPHORIA & CENTRAL NERVOUS DEPRESSION, INCLUDING IMPAIRED MOTOR COORDINATION, SLURRED SPEECH, STUPOR, LOSS OF MUSCLE COORDINATION & COMA. DEATH MAY OCCUR DUE TO RESPIRATORY ARREST & CONSEQUENT ASPHYXIA. A POTENT SKIN AND LUNG SENSITIZER. ALLERGIC REACTIONS TO THIS PRODUCT MAY DEVELOP WITH CLASSIC SYMPTOMS OF ALLERGIC, DERMATITIS: ITCHING, TINGLING, RASH, HIVES & SWELLING. INDIVIDUALS SENSITIZED TO ISOCYANATES SHOULD AVOID EXPOSURES EVEN BELOW RECOMMENDED EXPOSURE LEVELS.

CARCINOGENICITY: NTP CARCINOGEN: YES IARC MONOGRAPHS: YES OSHA REGULATED: YES
ANTIMOMY OXIDE IS AN IARC (GROUP IIB) SUSPECT CARCINOGEN. ANTIMONY OXIDE CONTAINS 0.4% ARSENIC. AS CONTAINED IN
THIS PRODUCT, THE ARSENIC LEVEL IS LESS THAN 0.10%. ARSENIC IS AN OSHA (OCCUPATIONAL SAFETY AND HEALTH
ADMINISTRATION)CANCER HAZARD, AN NTP (NATIONAL TOXICOLOGY PROGRAM) HUMAN CARCINOGEN, AND AN IARC (INTERNATIONAL
AGENCY FOR RESEARCH ON CANCER) GROUP I HUMAN CARCINOGEN. THE REMAINING INGREDIENTS ARE AT OR LESS THAN de
minimis LEVELS OR ARE NOT CONSIDERED TO BE CARCINOGENS BY THE NTP, IARC OR OSHA.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

ASTHMA, OTHER RESPIRATORY DISORDERS (BRONCHITIS, EMPHYSEMA, BRONCHIAL HYPER REACTIVITY), SKIN ALLERGIES & ECZEMA.

EMERGENCY AND FIRST AID PROCEDURES

EYE: FLUSH WITH CLEAN, LUKEWARM WATER FOR 15 MINUTES WHILE LIFTING EYELIDS. REFER TO PHYSICIAN OR OPHTHALMOLOGIST FOR IMMEDIATE FOLLOW-UP. SKIN: REMOVE CONTAMINATED CLOTHING IMMEDIATELY. WASH AFFECTED AREAS WITH SOAP AND WATER. AFTER WASHING, COVER AFFECTED SKIN WITH POLYETHYLENE GLYCOL (300-500 MOL WT) AND WASH AGAIN IMMEDIATELY WITH SOAP AND WATER TO THOROUGHLY REMOVE POLYETHYLENE GLYCOL AND RESIDUAL ISOCYANATE. WASH CLOTHING BEFORE REUSE. FOR SEVERE EXPOSURES, GET UNDER SAFETY SHOWER AND GET MEDICAL ATTENTION IF IRRITATION OR ALLERGIC DERMATITIS SYMPTOMS DEVELOP, OR IF GROSS EXPOSURE DEVELOPS. FOR LESSER EXPOSURES, SEEK MEDICAL ATTENTION IF IRRITATION PERSISTS. INHALATION: MOVE TO FRESH AIR, ADMINISTER OXYGEN BY A QUALIFIED INDIVIDUAL OR ARTIFICIAL RESPIRATION AS NEEDED. GET MEDICAL ATTENTION. ASTHMATIC-TYPE SYMPTOMS MAY DEVELOP AND MAY BE IMMEDIATE OR DELAYED SEVERAL HOURS. TREATMENT IS ESSENTIALLY SYMPTOMATIC. INGESTION: DO NOT INDUCE VOMITING. GIVE 1 TO 2 CUPS MILK OR WATER. IF VOMITING OCCURS, KEEP VICTIM'S HEAD BELOW THE HIPS TO PREVENT BREATHING VOMITUS INTO THE LUNGS. CONSULT PHYSICIAN IMMEDIATELY.

NOTE TO PHYSICIAN.

EYES- STAIN FOR EVIDENCE OF CORNEAL INJURY. IF CORNEA IS BURNED, INSTILL ANTIBIOTIC/STEROID PREPARATION
FREQUENTLY. WORKPLACE VAPORS COULD PRODUCE REVERSIBLE CORNEAL EPITHELIAL EDEMA IMPAIRING VISION.
SKIN- THIS COMPOUND IS A POTENT SKIN SENSITIZER. TREAT SYMPTOMATICALLY AS FOR CONTACT DERMITITIS OR THERMAL BURN.
INGESTION- TREAT SYMPTOMATICALLY. THERE IS NO SPECIFIC ANTIDOTE. INDUCING VOMITING IS CONTRAINDICATED BECAUSE OF
THE IRRITATING NATURE OF THE COMPOUND.

INHALATION- TREATMENT IS ESSENTIALLY SYMPTOMATIC. AN INDIVIDUAL HAVING A DERMAL OR PULMONARY SENSITIZATION REACTION TO THIS MATERIAL SHOULD BE REMOVED FROM ANY EXPOSURE TO ISOCYANATE.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

CLEAR THE AREA OF UNNECESSARY PERSONNEL. SHUT DOWN HVAC EQUIPMENT IF INSIDE BUILDING OR NEAR HVAC SYSTEM TO PREVENT CONTAMINATING BUILDING. VENTILATE AREA AS VAPORS ARE HARMFUL, HEAVIER THAN AIR AND ARE FLAMMABLE OR COMBUSTIBLE AND MAY MIGRATE TO AN IGNITION SOURCE. USE ONLY EXPLOSION PROOF EQUIPMENT. INSURE A TRAINED RESPONSE TEAM IS IN EMERGENCY PROTECTIVE EQUIPMENT. PREVENT FURTHER SPILLAGE AND CONTAIN THE SPILL USING DIKES MADE OF SAND, EARTH OR SPILL PILLOWS. COVER THE SPILL AREA WITH A NON-COMBUSTIBLE ADSORBENT MATERIAL (E.G., ADSORBENT CLAY, EARTH, SAND) TO ABSORB AS MUCH LIQUID AS POSSIBLE. USING NON SPARKING TOOLS, CAREFULLY SHOVEL THE ADSORBENT INTO OPEN TOP CONTAINERS. DO NOT FILL TO THE TOP OR COVER THE CONTAINERS. PREPARE A DECONTAMINATING SOLUTION AS FOLLOWS: OPTION 1: CONSISTS OF A SOLUTION 90% WATER, 8% CONCENTRATED AMMONIA SOLUTION AND 2% LIQUID DETERGENT. OPTION 2: CONSISTS OF A SOLUTION 90-95% WATER, 5-10% SODIUM CARBONATE AND 0.2- 0.5% LIQUID DETERGENT.

POUR THE LIQUID DECONTAMINATE LIBERALLY OVER THE REMAINING SPILL AREA AND SPREAD WITH A BROOM OR SQUEEGEE TO INSURE CONTACT. LET STAND 10-15 MINUTES @25C(77F), LONGER AT LOWER TEMPERATURES. THEN WASH DOWN THE AREA WITH PLENTY OF WATER. IN A WELL VENTILATED AREA, ADD ENOUGH LIQUID DECONTAMINATE SOLUTION TO THE CONTAINERS WITH THE ABSORBED SPILL MATERIAL TO OBTAIN AN APPROXIMATE 10:1 RATIO OF DECONTAMINATE SOLUTION TO SPILL MATERIAL. MIX THE LIQUID-ADSORBENT SLURRY AND LET STAND FOR 12-24 HOURS. STIR PERIODICALLY, OR THE LIQUID-ADSORBENT SLURRY MAY SOLIDIFY. LEAVE THE LIDS ON LOOSELY. AFTER DECONTAMINATION SOLUTION HAS BEEN IN CONTACT WITH THE SPILLED MATERIAL FOR 24-48 HOURS, AND THE EVOLVED CARBON DIOXIDE HAS VENTED AWAY, TIGHTEN DOWN THE LIDS AND DISPOSE OF THE MIXTURE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS. TEST THE AREA FOR RESIDUAL SOLVENT AND ISCCYANATE VAPORS BEFORE ALLOWING WORKERS TO RE-ENTER THE AREA. WHEN SAFE WORKING CONDITIONS HAVE BEEN RE-ESTABLISHED, REMOVE AND DECONTAMINATE ALL EQUIPMENT USED.

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LARGE SPILLS:

CLEAR THE AREA OF ALL NON-ESSENTIAL PERSONNEL. STAY UP-WIND TO AVOID BREATHING VAPOR. IF INSIDE A BUILDING, OR NEAR HVAC EQUIPMENT, SHUT DOWN THE HVAC SYSTEM AND VENTILATE THE AREA AS VAPORS ARE HARMFUL AND FLAMMABLE OR COMBUSTIBLE AND MAY MIGRATE TO A SOURCE OF IGNITION. (IF MECHANICAL VENTILATION EQUIPMENT IS TO BE USED TO VENTILATE THE AREA, USE ONLY EXPLOSION PROOF EQUIPMENT). PREVENT ACCESS TO AREA. NOTIFY THE APPROPRIATE STATE, LOCAL AND FEDERAL AUTHORITIES AS WELL AS THE MATERIAL SUPPLIER. INSURE A TRAINED RESPONSE TEAM IS IN APPROPRIATE EMERGENCY EQUIPMENT. PREVENT FURTHER SPILLAGE. CONTAIN THE SPILL USING SAND BAGS, SPILL PILLOWS, DIRT DIKES, ETC. IT IS IMPORTANT THAT THIS MATERIAL NOT BE ALLOWED TO ENTER DRAINS. THE REACTION WITH WATER CAN BE VIOLENT AND FORMS AN INSOLUABLE MATERIAL WHICH MAY CAUSE BLOCKAGE. IF THIS MATERIAL DOES ENTER DRAINS, FLUSH WITH AMPLE QUANTITIES OF WATER AND NOTIFY THE SEWER AUTHORITY IMMEDIATELY. ABSORB THE SPILL AND DECONTAMINATE THE SPILL AREA AND ABSORBED MATERIAL AS IN SMALL SPILL ABOVE. WASH DOWN THE AREA ONE MORE TIME WITH THE DECONTAMINATION SOLUTION. TEST THE ATMOSPERE FOR RESIDUAL SOLVENT AND ISOCYANATE VAPORS BEFORE ALLOWING OTHERS TO RE-ENTER THE AREA. WHEN SAFE CONDITIONS HAVE BEEN REESTABLISHED, REMOVE AND DECONTAMINATE ALL EQUIPMENT USED.

SOLIDIFIED SPILLAGE:

WHERE SPILLS HAVE SOLIDIFIED, SANDBLASTING IS THE PREFERRED REMOVAL METHOD, PARTICULARLY FOR ROAD SPILLS. WEAR SPECIAL PROTECTIVE CLOTHING FOR SANDBLASTING, ALONG WITH SELF-CONTAINED BREATHING EQUIPMENT.

WASTE DISPOSAL METHOD

DISPOSE OF CONTAMINATED PRODUCT AND MATERIALS USED IN CLEANING UP SPILLS OR LEAKS IN A MANNER APPROVED FOR THIS MATERIAL. CONSULT APPROPRIATE FEDERAL, STATE AND LOCAL REGULATORY AGENCIES TO ASCERTAIN PROPER DISPOSAL PROCEDURES. EMPTY CONTAINERS WILL RETAIN PRODUCT RESIDUE AND VAPORS AND ARE SUBJECT TO PROPER WASTE DISPOSAL, AS ABOVE.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

STORE IN A COOL, DRY WELL VENTILATED AREA IN TIGHTLY CLOSED CONTAINERS TO PREVENT MOISTURE CONTAMINATION. UNUSED PRODUCT REMAINING IN OPENED CONTAINERS MUST BE PURGED WITH DRY NITROGEN BEFORE RESEALING TO PREVENT CO2 PRESSURE BUILD-UP DUE TO MOISTURE CONTAMINATION. IF MOISTURE OR WATER CONTAMINATION IS SUSPECTED, DO NOT RESEAL. OPEN SEALED DRUMS SLOWLY TO RELEASE ANY PRESSURE DUE TO POSSIBLE CO2 PRESSURE BUILD-UP.

OTHER PRECAUTIONS

DO NOT PUNCTURE, CUT, GRIND, WELD, BRAZE, SOLDER OR DRILL ON OR NEAR THIS CONTAINER OR OTHERWISE EXPOSE SUCH CONTAINER TO HEAT, FLAME, SPARKS, STATIC ELECTRICAL CHARGES, ELECTRICITY OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND/OR EMIT TOXIC VAPORS RESULTING IN INJURY OR DEATH. CLOSED CONTAINERS MAY EXPLODE DUE TO PRESSURE BUILD-UP IF EXPOSED TO WATER OR MOISTURE OR EXTREME HEAT. CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, WILL RETAIN PRODUCT RESIDUE AND VAPORS. ALWAYS OBEY HAZARD WARNINGS AND HANDLE EMPTY CONTAINERS AS IF THEY WERE FULL. DO NOT GET IN EYES, ON SKIN OR ON CLOTHING. AVOID PROLONGED OR REPEATED BREATHING OF VAPOR OR SPRAY MIST. USE ONLY IN A WELL VENTILATED AREA. KEEP OUT OF THE REACH OF CHILDREN.

RESPIRATORY PROTECTION

FOLLOW OSHA REGULATION 29 CFR 1910.134 FOR RESPIRATOR USE. WHERE OVER SPRAY IS PRESENT, OR IF CONCENTRATION OF SOLVENTS AND ISOCYANATES IS NOT KNOWN OR ARE ABOVE THE EXPOSURE GUIDELINE OF .005 PPM FOR ISOCYANATES, USE POSITIVE PRESSURE, AIR SUPPLIED EQUIPMENT SINCE AIR PURIFYING (CARTRIDGE TYPE) RESPIRATORS ARE NOT APPROVED FOR PROTECTION FROM ISOCYANATES.

VENTILATION

IF CURRENT VENTILATION PRACTICES DURING MIXING AND APPLICATION OPERATIONS ARE NOT ADEQUATE TO MINIMIZE EXPOSURE, USE LOCAL EXHAUST VENTILATION CAPABLE OF MAINTAINING EMISSIONS AT THE POINT OF USE BELOW THE PEL OR TLV OR OTHER EXPOSURE GUIDELINES, AS APPROPRIATE. VENTILATION RATES SHOULD BE MATCHED TO CONDITIONS. MECHANICAL EXHAUST VENTILATION, WITH VOLUME AND PATTERN CAPABLE OF MAINTAINING A FRESH AIR SUPPLY, MAY BE NECESSARY IN CONFINED SPACES. REFER TO OSHA STANDARD 29CFR 1910.94 AND/OR ACGIH INDUSTRIAL VENTILATION FOR GUIDANCE ABOUT ADEQUATE VENTILATION. TURN OFF HEATING AND/OR AIR CONDITIONING EQUIPMENT TO PREVENT CONTAMINATING BUILDING.

PROTECTIVE GLOVES

CHEMICAL RESISTANT GLOVES DETERMINED TO BE IMPERVIOUS UNDER THE CONDITIONS OF USE.

EYE PROTECTION

CHEMICAL GOGGLES. IF SPLASHING MAY OCCUR OR DURING SPRAY OPERATIONS WEAR A FACE SHIELD, UNLESS A FULL FACE PIECE RESPIRATOR IS USED. DO NOT WEAR CONTACT LENSES AS THEY MAY CONTRIBUTE TO THE SEVERITY OF INJURY TO THE EYE FROM EXPOSURE TO LIQUID AND/OR VAPORS AND SPRAY MIST.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT

ADDITIONAL PROTECTION MAY CONSIST OF APRONS, ARM COVERS OR A FULL BODY SUIT. TESTING OF SOME COMMERCIALLY AVAILABLE PROTECTIVE CLOTHING INDICATES THAT CLOTHING CONSTRUCTED OF BUTYL RUBBER, NITRILE RUBBER, SARANEX COATED TYVEK AND SOME NEOPRENE GARMENTS HAVE EXCELLENT RESISTANCE TO PERMEATION BY ISOCYANATES. CLOTHING CONSTRUCTED OF NEOPRENE/LATEX RUBBER AND SOME PVC GARMENTS EXHIBITED LIMITED RESISTANCE TO PERMEATION BY ISOCYANATES. CLOTHING CONSTRUCTED OF POLYETHYLENE, LATEX RUBBER, PVC OR POLYLAMINATED TYVEK SHOWED LITTLE RESISTANCE TO PERMEATION BY ISOCYANATES. PROTECTIVE CLOTHING SHOULD BE SELECTED AND USED IN ACCORDANCE WITH "GUIDELINES FOR THE SELECTION OF CHEMICAL PROTECTIVE CLOTHING" PUBLISHED BY ACGIH. (AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS).

WORK/HYGIENIC PRACTICES

WASH AT THE END OF EACH WORKSHIFT AND BEFORE EATING, SMOKING OR USING THE TOILET. PROMPTLY REMOVE CONTAMINATED CLOTHING AND LAUNDER BEFORE WEARING.DISCARD CONTAMINATED LEATHER ARTICLES. EXAMINE PROTECTIVE GLOVES AND CLOTHING BEFORE USE. DISCARD UPON FINDING EVIDENCE OF HOLES CRACKS OR LEAKS.

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ADDITIONAL REGULATORY INFORMATION.

STATUS OF SUBSTANCE LISTS: THE CONCENTRATIONS SHOWN IN SECTION II AND/OR IN THIS SECTION, ARE MAXIMUM FOR CEILING LEVELS (WEIGHT %) TO BE USED FOR CALCULATIONS FOR REGULATIONS.

FEDERAL EPA: COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT OF 1980 (CERCLA) REQUIRES NOTIFICATION OF THE NATIONAL RESPONSE CENTER OF RELEASE OF QUANTITIES OF HAZARDOUS SUBSTANCES EQUAL TO OR GREATER THAN THE REPORTABLE QUANTITIES (RQs) IN 40 CFR302.4.

COMPONENTS PRESENT IN THIS PRODUCT AT A LEVEL THAT COULD REQUIRE REPORTING UNDER THE STATUTE ARE:

XYLENE, (MIXED ISOMERS),

CAS #1330-20-7, RQ 100#.

ETHYL BENZENE,

CAS #100-41-4, RQ 1000#.

ANTIMONY OXIDE,

CAS #1309-64-4, RQ 1000#.

SUPERFUND AMENDMENTS AND RE-AUTHORIZATION ACT OF 1986 (SARA) TITLE III

REQUIRES EMERGENCY PLANNING BASED ON THRESHOLD PLANNING QUANTITIES (TPQs) AND RELEASE REPORTING BASED ON REPORTABLE QUANTITIES (RQs) IN 40 CFR 355 (USED FOR SARA 302, 304, 311 AND 312).

COMPONENTS PRESENT IN THIS PRODUCT AT A LEVEL THAT COULD REQUIRE REPORTING UNDER THE STATUTE ARE:

XYLENE, (MIXED ISOMERS),

CAS #1330-20-7,

RQ 100#.

ETHYL BENZENE,

CAS #100-41-4,

RO 1000#.

ANTIMONY OXIDE,

CAS #1309-64-4.

RQ 1000#.

REQUIRES SUBMISSION OF ANNUAL REPORTS OF RELEASE OF TOXIC CHEMICALS THAT APPEAR IN 40 CFR 372 (FOR SARA 313). THIS INFORMATION MUST BE INCLUDED IN ALL MSDSs THAT ARE COPIED AND DISTRIBUTED FOR THIS MATERIAL.

COMPONENTS PRESENT IN THIS PRODUCT AT A LEVEL THAT COULD REQUIRE REPORTING UNDER THE STATUTE ARE: SEE SECT II.

STATE RIGHT-TO-KNOW:

CALIFORNIA PROPOSITION 65:

THIS PRODUCT CONTAINS:

BENZENE CAS #71-43-2 (TRACE AMOUNT, LESS THAN 0.10% BY WEIGHT), ARSENIC (INORGANIC ARSENIC COMPOUNDS) CAS # NOT ASSIGNED (TRACE AMOUNT, LESS THAN 0.10% BY WEIGHT), ANTIMONY OXIDE CAS #1309-64-4 (1.17% BY WEIGHT), KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER OR REPRODUCTIVE TOXICITY.

IN ADDITION TO THE ABOVE NAMED CHEMICALS, IF ANY, THIS PRODUCT MAY CONTAIN TRACE AMOUNTS OF SOME CHEMICALS CONSIDERED BY THE STATE OF CALIFORNIA TO BE CARCINOGENS OR REPRODUCTIVE TOXICANTS.

ALIPHATIC DIISOCYANATE (DICYCLOHEXYLMETHANE-4,4'-DIISOCYANATE CAS #5124-30-1 15.0% IS LISTED ON MASSACHUSETTS'S HAZARDOUS SUBSTANCE LIST, ON NEW JERSEY'S HAZARDOUS SUBSTANCE LIST AND ON PENNSYLVANIA'S HAZARDOUS SUBSTANCE LIST.

TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS:

THE COMPONENTS OF THIS PRODUCT ARE LISTED OR ARE EXCLUDED FROM LISTING ON THE U.S. TOXIC SUBSTANCES CONTROL ACT (TSCA) CHEMICAL SUBSTANCE INVENTORY.

THE REMAINING PERCENTAGE OF UNSPECIFIED INGREDIENTS ARE NOT CONTAINED IN ABOVE de minimis CONCENTRATIONS AND/OR ARE BELIEVED TO BE NON-HAZARDOUS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200), AND MAY CONSIST OF PIGMENTS, FILLERS, DEFOAMERS, WETTING AGENTS, ANTI-BACTERIAL AGENTS, RESINS, DRYERS, WATER AND/OR SOLVENTS IN VARYING CONCENTRATIONS.

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Prepared by Leon Scott, Hesterman Technical

THE INFORMATION CONTAINED HEREIN IS FURNISHED WITHOUT WARRANTY OF ANY KIND. USERS SHOULD CONSIDER THESE DATA ONLY AS A SUPPLEMENT TO OTHER INFORMATION GATHERED BY THEM & DETERMINE THE SUITABILITY & COMPLETENESS OF INFORMATION FROM ALL SOURCES TO ASSURE PROPER USE & DISPOSAL OF THESE MATERIALS & THE SAFETY & HEALTH OF EMPLOYEES & CUSTOMERS.

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