

MATERIAL SAFETY DATA SHEET

24 HOUR EMERGENCY NUMBER
CHEMTREC 800-424-9300

Date Printed JANUARY 2004

HAZARD RATINGS:

ACUTE HEALTH 2	FIRE 1	REACTIVITY 0	HAZARD RATING - LEAST-0 SLIGHT-1 MODERATE-2 HIGH-3 EXTREME- 4
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PRODUCT NAME: EPOXY 220 A (a combination of the following two epoxy resins.
Formula is Proprietary)

CHEMICAL NAME: EPOXY RESIN
CHEMICAL FAMILY: EPICHLOROHYDRIN-BISPHENOL A RESIN.
EPICHLOROHYDRIN-POLYGLYCOL.

1. INGREDIENTS: (% WW, UNLESS OTHERWISE NOTED)

REACTION PRODUCTS OF EPICHLOROHYDRIN & BISPHENOL A
CAS# 025085-99-8

EPICHLOROHYDRIN-POLYGLYCOL REACTION PRODUCT
CAS#026142-30-3

(The combination of the above two resins equal 100% Formula is Proprietary.)

THIS DOCUMENT IS PREPARED PURSUANT TO THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).
IN ADDITION, OTHER SUBSTANCES NOT "HAZARDOUS" PER THIS OSHA STANDARD MAY BE LISTED. WHERE
PROPRIETARY INGREDIENT SHOWS, THE IDENTITY MAY BE MADE AVAILABLE AS PROVIDED IN THIS STANDARD.

2. PHYSICAL DATA:

BISPHENOL A RESIN

BOILING POINT: NOT APPLICABLE
VAP. PRESS: NOT APPLICABLE
VAP. DENSITY: NOT APPLICABLE
SOL. IN WATER: NONE
SP. GRAVITY: 1.16
APPEARANCE: WATER-WHITE TO
YELLOW LIQUID TO SEMI-SOLID.
ODOR: FAINT EPOXY ODOR.

POLYGLYCOL

BOILING POINT: >200C @ 760 mmHg
VAP. PRESS. 1.4mm @ 80C
VAP. DENSITY: NOT AVAILABLE.
SOL. IN WATER: NONE
SP. GRAVITY: 1.08
APPEARANCE: LIQUID.
ODOR: ETHEREAL.

3. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: 485F, 252C
METHOD USED: ASTM D93, PMC

FLASH POINT: 310F
METHOD USED: PMCC

(CONTINUED ON PAGE #2)

PRODUCT NAME: EPOXY 220 A

3. FIRE AND EXPLOSION HAZARD DATA: (CONTINUED)

FLAMMABLE LIMITS FOR BOTH RESINS.

LFL: NOT APPLICABLE

UFL: NOT APPLICABLE

EXTINGUISHING MEDIA: FOAM, CO2, DRY CHEMICAL

FIRE & EXPLOSION HAZARDS: NONE KNOWN.

FIRE-FIGHTING EQUIPMENT: WEAR POSITIVE PRESSURE SELF-CONTAINED BREATHING APPARATUS.

4. REACTIVITY DATA:

STABILITY: (CONDITIONS TO AVOID) EXCESS HEATING OVER LONG PERIODS OF TIME
DEGRADES THE RESIN. AVOID AMINE COMPOUNDS.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) BASE, ACID, AMINES AND
OXIDIZING MATERIALS.

HAZARDOUS DECOMPOSITION PRODUCTS: THE BY-PRODUCTS EXPECTED IN INCOMPLETE
PYROLYSIS OR COMBUSTION OF EPOXY RESINS ARE MAINLY PHENOLICS, CARBON
MONOXIDE, HYDROGEN CHLORIDE AND WATER. THE THERMAL DECOMPOSITION PRODUCTS
OF EPOXY RESINS THEREFORE SHOULD BE TREATED AS POTENTIALLY HAZARDOUS
SUBSTANCES, AND APPROPRIATE PRECAUTIONS SHOULD BE TAKEN.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR BY ITSELF, BUT MASSES OF MORE THAN
ONE POUND OF PRODUCT PLUS AN ALIPHATIC AMINE WILL CAUSE IRREVERSIBLE
POLYMERIZATION WITH CONSIDERABLE HEAT BUILDUP.

6. ENVIRONMENTAL AND DISPOSAL INFORMATION:

ACTION TO TAKE FOR SPILLS/LEAKS: SOAK UP IN ABSORBENT MATERIAL SUCH AS SAND
AND COLLECT IN SUITABLE CONTAINERS. RESIDUAL RESIN MAY BE REMOVED USING
STEAM OR HOT SOAPY WATER. SOLVENTS ARE NOT RECOMMENDED FOR CLEANUP UNLESS
THE RECOMMENDED EXPOSURE GUIDELINES AND SAFE HANDLING PRACTICES FOR THE
SPECIFIC SOLVENT ARE FOLLOWED. CONSULT APPROPRIATE SOLVENT MSDS FOR
HANDLING INFORMATION AND EXPOSURE GUIDELINES. KEEP SPARK PRODUCING EQUIPMENT
AWAY. FOR LARGE SPILLS EVACUATE UPWIND OF SPILLS AND CONTAIN WITH DIKE.

(CONTINUED ON PAGE #3)

PRODUCT NAME: EPOXY 220 A

5. ENVIRONMENTAL AND DISPOSAL INFORMATION: (CONTINUED)

DISPOSAL METHOD: BURN IN ADEQUATE INCINERATOR OR BURY IN AN APPROVED LANDFILL; IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.

6. HEALTH HAZARD DATA:

EYE: MAY CAUSE SLIGHT TRANSIENT (TEMPORARY) EYE IRRITATION. CORNEAL INJURY IS UNLIKELY.

SKIN CONTACT: REPEATED EXPOSURE MAY CAUSE SKIN IRRITATION. HAS CAUSED ALLERGIC SKIN REACTION IN HUMANS.

SKIN ABSORPTION: A SINGLE PROLONGED EXPOSURE IS NOT LIKELY TO RESULT IN THE MATERIAL BEING ABSORBED THROUGH SKIN IN HARMFUL AMOUNTS. THE LD50 FOR SKIN ABSORPTION IN RABBITS IS 20,000 MG/KG.

INGESTION : SINGLE DOSE ORAL TOXICITY IS LOW. THE ORAL LD50 FOR RATS IS >4000 MG/KG. NO HAZARDS ANTICIPATED FROM SWALLOWING SMALL AMOUNTS INCIDENTAL TONORMAL HANDLING OPERATIONS.

INHALATION: ELEVATED TEMPERATURES MAY GENERATE VAPOR LEVELS SUFFICIENT TO CAUSE EYE AND RESPIRATORY IRRITATION.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS:

EXCEPT FOR SKIN SENSITIZATION, REPEATED EXPOSURES TO LOW MOLECULAR WEIGHT DIGLYCIDYL ETHER OF BISPHENOL A ARE NOT ANTICIPATED TO CAUSE ANY SIGNIFICANT ADVERSE EFFECTS.

CANCER INFORMATION: A POORLY CHARACTERIZED SAMPLE OF LOW MOLECULAR WEIGHT DIGLYCIDYL ETHER OF BISPHENOL A HAS BEEN REPORTED TO PRODUCE SKIN CANCER IN A HIGHLY SENSITIVE STRAIN OF MICE. HOWEVER, HIGH LEVELS OF IMPURITIES (INCLUDING A KNOWN ANIMAL SKIN CARCINOGEN) COMPROMISE THE VALIDITY OF THE FINDINGS.

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PRODUCT NAME: EPOXY 220 A

6. HEALTH HAZARD DATA: (CONTINUED)

CANCER INFORMATION:

DIGLYCIDYL ETHER OF BISPHENOL A THAT IS REPRESENTATIVE OF CURRENT MANUFACTURING PROCESSES IS NOT BELIEVED TO BE A CANCER HAZARD TO HUMANS.

TERATOLOGY (BIRTH DEFECTS):

DID NOT CAUSE BIRTH DEFECTS OR OTHER ADVERSE EFFECTS ON THE FETUS WHEN PREGNANT RABBITS WERE EXPOSED BY SKIN CONTACT, THE MOST LIKELY ROUTE OF EXPOSURE.

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL): RESULTS OF MUTAGENICITY TEST IN ANIMALS HAVE BEEN NEGATIVE. HAS BEEN SHOWN TO BE NEGATIVE IN SOME IN VITRO ('TEST TUBE') MUTAGENICITY TESTS AND POSITIVE IN OTHERS.

7. FIRST AID:

EYES: IRRIGATE IMMEDIATELY WITH WATER FOR AT LEAST 5 MINUTES.

SKIN: WASH OFF IN FLOWING WATER OR SHOWER.

INGESTION: NO ADVERSE EFFECTS ANTICIPATED BY THIS ROUTE OF EXPOSURE INCIDENTAL TO PROPER INDUSTRIAL HANDLING.

INHALATION: REMOVE TO FRESH AIR IF EFFECTS OCCUR. CONSULT A PHYSICIAN.

NOTE TO PHYSICIAN: NO SPECIFIC ANTIDOTE. SUPPORTIVE CARE. TREATMENT BASED ON JUDGEMENT OF THE PHYSICIAN IN RESPONSE TO REACTIONS OF THE PATIENT.

8. HANDLING PRECAUTIONS:

EXPOSURE GUIDELINES: NONE ESTABLISHED.

VENTILATION: GOOD GENERAL VENTILATION SHOULD BE SUFFICIENT FOR MOST CONDITIONS. LOCAL EXHAUST VENTILATION MAY BE NECESSARY FOR SOME OPERATIONS.

(CONTINUED ON PAGE #5)

PRODUCT NAME: EPOXY220 A

8. HANDLING PRECAUTIONS: (CONTINUED)

RESPIRATORY PROTECTION: NO RESPIRATORY PROTECTION SHOULD BE NEEDED; HOWEVER, IN MISTY ATMOSPHERES, USE AN APPROVED MIST RESPIRATORY. IF RESPIRATORY IRRITATION IS EXPERIENCED, USE AN APPROVED AIR-PURIFYING RESPIRATOR.

SKIN PROTECTION: FOR BRIEF CONTACT, NO PRECAUTIONS OTHER THAN CLEAN BODY-COVERIN SHOULD BE NEEDED. USE IMPERVIOUS GLOVES WHEN PROLONGED OR FREQUENTLY REPEATED CONTACT COULD OCCUR. REMOVE CONTAMINATED CLOTHING NO LATER THAN THE END OF THE WORK PERIOD AND CLEAN BEFORE REUSE.

EYE PROTECTION: USE SAFETY GLASSES. WHERE CONTACT WITH THIS MATERIAL IS LIKELY, CHEMICAL GOGGLES ARE RECOMMENDED BECAUSE EYE CONTACT MAY CAUSE DISCOMFORT EVEN THOUGH IT IS UNLIKELY TO CAUSE INJURY.

9. ADDITIONAL INFORMATION:

**SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:
PRACTICE GOOD CAUTION AND PERSONAL CLEANLINESS TO AVOID SKIN AND EYE CONTACT. AVOID BREATHING VAPORS OF HEATED MATERIAL.**

REGULATORY INFORMATION: (NOT MEANT TO BE ALL-INCLUSIVE--SELECTED REGULATIONS REPRESENTED).

NOTICE: THE INFORMATION HEREIN IS PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE AS OF THE EFFECTIVE DATE SHOWN ABOVE. HOWEVER, NO WARRANTY, EXPRESS OR IMPLIED, IS GIVEN. REGULATORY REQUIREMENTS ARE SUBJECT TO CHANGE AND MAY DIFFER FROM ONE LOCATION TO ANOTHER; IT IS THE BUYER'S RESPONSIBILITY TO ENSURE THAT ITS ACTIVITIES COMPLY WITH FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS. THE FOLLOWING SPECIFIC INFORMATION IS MADE FOR THE PURPOSE OF COMPLYING WITH NUMEROUS FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS AND REGULATIONS. SEE MSD SHEET FOR HEALTH AND SAFETY INFORMATION

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PRODUCT NAME: EPOXY 220 A

SARA HAZARD CATEGORY: THE PRODUCTS HAS BEEN REVIEWED ACCORDING TO THE EPA "HAZARD CATEGORIES" PROMULGATED UNDER SECTION 311 & 312 OF THE SUPERFUND AMENDMENT & REAUTHORIZATION ACT OF 1986 (SARA TITLE 111) & IS CONSIDERED, UNDER APPLICABLE DEFINITIONS, TO MEET THE FOLLOWING CATEGORIES: AN IMMEDIATE HEALTH HAZARD.

CANADIAN REGULATIONS

The Workplace Hazardous Material Information System Classification for this product is: D2B

OTHER REGULATORY INFORMATION

NOT REGULATED

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ACUTE HEALTH 3	FIRE 1	REACTIVITY 0	HAZARD RATING: LEAST-0 SLIGHT-1 MODERATE-2 HIGH-3 EXTREME-4
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PRODUCT NAME: 220 B, CURING AGENT
CHEMICAL NAME: MIXTURE
CHEMICAL FAMILY: MODIFIED ALIPHATIC POLYAMINE

SECTION II-A		PRODUCT / INGREDIENTS	
NO	COMPOSITION	CAS NUMBER	PERCENT
220 B CURING AGENT		MIXTURE	100
1-EPICURE 3125	FATTY ACID POLYAMIDE	68410-23-1	
2-	TRIETHYLENETETRAMINE	112-24-3	
3-NONYLPHENOL	PHENOL, NONYL	84852-15-3	<10%
4-EPICURE 3015	TETRAETHYLENEPENTAMINE, TALL OIL FATTY ACID	68953-36-6	
5-	TETRAETHYLENEPENTAMINE	112-57-2	

THE 220 B CURING AGENT IS A MIXTURE OF THE ABOVE THREE COMPONENTS. THE PERCENTAGE OF EACH OF THESE INGREDIENTS IS PROPRIETARY INFORMATION.

SUSPECTED CANCER AGENT: NO

SECTION II-B		ACUTE TOXICITY DATA	
NO	ACUTE ORAL LD50	ACUTE DERMAL LD50	ACUTE INHALATION LC50
1-2	>5 G/KG (RAT)	>8 G/KG (RABBIT)	NO DATA AVAILABLE
3	58 G/KG (RAT)	2.14 G/KG (RABBIT)	NO DATA AVAILABLE
4	NO DATA AVAILABLE	NO DATA AVAILABLE	NO DATA AVAILABLE
5	3.99 G/KG (RAT)	0.66 G/KG (RABBIT)	300 MG/M3 (MOUSE)

SECTION III HEALTH INFORMATION

THE HEALTH EFFECTS NOTED BELOW ARE CONSISTENT WITH THE REQUIREMENTS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).

EYE CONTACT

PRODUCT MAY BE EXTREMELY IRRITATING TO THE EYES AND MAY CAUSE SEVERE DAMAGE INCLUDING BLINDNESS
VAPORS MAY BE IRRITATING

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PRODUCT NAME: 220 B CURING AGENT

SECTION III (CONT.)

HEALTH INFORMATION

SKIN CONTACT

CAUSES SEVERE IRRITATION WITH PAIN, SEVERE EXCESS REDNESS AND SWELLING WITH CHEMICAL BURNS, BUBBLE FORMATION, AND POSSIBLE TISSUE DESTRUCTION. MAY BE TOXIC IF ABSORBED THROUGH SKIN.

INHALATION

VAPORS OR MIST, ESPECIALLY AS GENERATED FROM HEATING THE MATERIAL MAY PRODUCE SEVERE RESPIRATORY IRRITATION. MAY CAUSE RESPIRATORY TRACT SENSITIZATION. PROLONGED OR REPEATED OVEREXPOSURE MAY RESULT IN LUNG DAMAGE

INGESTION

NOT EXPECTED TO BE A RELEVANT ROUTE OF EXPOSURE, HOWEVER, MAY CAUSE BURNING OF MOUTH, THROAT, AND STOMACH WITH ABDOMINAL AND CHEST PAIN, NAUSEA, VOMITING, DIARRHEA, THIRST, WEAKNESS, AND COLLAPSE. ASPIRATION MAY OCCUR DURING SWALLOWING OR VOMITING, RESULTING IN LUNG DAMAGE.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

OVEREXPOSURE TO VAPOR, DUST OR MIST MAY AGGRAVATE EXISTING RESPIRATORY CONDITIONS, SUCH AS ASTHMAS, BRONCHITIS, AND INFLAMMATORY OR FIBROTIC RESPIRATORY DISEASE. REPEATED INHALATION MAY CAUSE LUNG DAMAGE. PREEXISTING EYE, SKIN AND RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

SECTION IV

OCCUPATIONAL EXPOSURE LIMITS

NO.	PEL/TWA	OSHA	PEL/CEILING	TLV/TWA	ACGIH	TLV/STEL
NONE ESTABLISHED.						

NONE ESTABLISHED.

SECTION V

EMERGENCY AND FIRST AID PROCEDURES

EYES:

IMMEDIATELY FLUSH WITH LARGE AMOUNT OF WATER FOR AT LEAST 15 MINUTES. HOLD EYELIDS APART WHILE FLUSHING TO RINSE ENTIRE SURFACE OF EYE AND LIDS WITH WATER. DO NOT ATTEMPT TO NEUTRALIZE WITH CHEMICAL AGENTS. OBTAIN IMMEDIATE MEDICAL ATTENTION. IF PHYSICIAN IS NOT IMMEDIATELY AVAILABLE, CONTINUE FLUSHING WITH WATER FOR ADDITIONAL 15 MINUTES.

SKIN:

IMMEDIATELY REMOVE CONTAMINATED CLOTHING AND SHOES. IMMEDIATELY FLUSH WITH LARGE AMOUNT OF WATER FOR AT LEAST 15 MINUTES. DO NOT ATTEMPT TO NEUTRALIZE WITH CHEMICAL AGENTS. OBTAIN IMMEDIATE MEDICAL ATTENTION. LAUNDER CLOTHING BEFORE REUSE AND DISCARD CONTAMINATED LEATHER ARTICLES. GET MEDICAL ATTENTION IF SWELLING OR REDDENING OCCURS.

INHALATION:

REMOVE TO FRESH AIR IF EFFECTS OCCUR. IF NOT BREATHING OR IN RESPIRATORY DISTRESS, CLEAR PERSON'S AIRWAY AND START ARTIFICIAL RESPIRATION. WITH A PHYSICIAN'S ADVICE, GIVE SUPPLEMENTAL OXYGEN. GET MEDICAL ATTENTION IF EFFECTS PERSIST.

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PRODUCT NAME: 220 B CURING AGENT

SECTION V (CONT.) EMERGENCY AND FIRST AID PROCEDURES

INGESTION:

IF PERSON IS CONSCIOUS AND CAN SWALLOW, IMMEDIATELY GIVE TWO (16oz.) GLASSES OF WATER BUT DO NOT INDUCE VOMITING. IF VOMITING OCCURS WILL CAUSE FURTHER DAMAGE TO THE THROAT. DILUTE BY GIVING ADDITIONAL WATER. HAVE A PHYSICIAN DETERMINE IF CONDITION OF PATIENT WILL PERMIT INDUCTION OF VOMITING OR EVACUATION OF STOMACH. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

SECTION VI SUPPLEMENTAL HEALTH INFORMATION

COMPONENT-2: TRIETHYLENETETRAMINE (TETA) HAS BEEN FOUND TO PRODUCE LIVER AND KIDNEY DAMAGE AND BRAIN CONGESTION IN DERMAL EXPOSED ANIMALS. TETA WAS FOUND TO BE A DIRECT ACTING MUTAGEN IN THE AMES ASSAY. IT GAVE POSITIVE RESULTS WITH AND WITHOUT ACTIVATION.

TETA WAS FETOTOXIC AND TERATOGENIC WHEN FED TO RATS AT 0.83% AND 1.67% OF DIET. WHEN APPLIED DERMALLY TO THE SKIN OF PREGNANT GUINEA PIGS, THERE WAS A 90% ABORTION RATE OR DEATH OF FETUS WITH SECONDARY TO COPPER DEFICIENCY, RESULTING FROM THE CHELATING ACTIVITY OF TETA.

COMPONENT-3: SWALLOWING OF THIS CORROSIVE MATERIAL MAY RESULT IN SEVERE ULCERATION, INFLAMMATION, AND POSSIBLE PERFORATION OF THE UPPER ALIMENTARY TRACT, WITH HEMORRHAGE AND FLUID LOSS. ASPIRATION OF THIS PRODUCT DURING INDUCED EMESIS CAN RESULT IN SEVERE LUNG INJURY. IF EVACUATION OF THE STOMACH IS NECESSARY, USE METHOD LEAST LIKELY TO CAUSE ASPIRATION, SUCH AS GASTRIC LAVAGE AFTER ENDOTRACHEAL INTUBATION. CONTACT A POISON CONTROL CENTER FOR ADDITIONAL TREATMENT INFORMATION.

COMPONENT -5: REPEATED EXPOSURES TO HIGH VAPOR CONCENTRATIONS OF TETRAETHYLENEPENTAMINE (TEPA) MAY CAUSE INJURY TO THE LIVER, KIDNEY AND RESPIRATORY TRACT. TEPA HAS EXHIBITED EVIDENCE FOR WEAK MUTAGENIC ACTIVITY IN STANDARD IN VITRO TEST SYSTEMS. TEPA DID NOT EXHIBIT CARCINOGENIC POTENTIAL IN LIFETIME MOUSE SKIN PAINTING STUDIES.

REMOVE AND DRY-CLEAN OR LAUNDRER CLOTHING SOAKED OR SOILED WITH THIS MATERIAL BEFORE REUSE. INFORM INDIVIDUALS RESPONSIBLE FOR CLEANING OF POTENTIAL HAZARDS WITH HANDLING CONTAMINATED CLOTHING.

SECTION VII PHYSICAL DATA

LIGHT AMBER, VISCIOUS LIQUID, AMMONIA ODOR.
 SPECIFIC GRAVITY: 0.95 AT 77 F
 VAPOR DENSITY (AIR=1): >1
 VAPOR PRESSURE: <.01, 20°C, (MM HG)
 WATER SOLUBILITY: PARTIAL

DENSITY: 8.1 LBS/GAL AT 77 F.
 MELTING POINT: NOT DETERMINED
 BOILING POINT: >940 F
 EVAPORATION RATE: NOT DETERMINED. (N-BUTYL ACETATE=1)

SECTION VIII FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD:
 >200 DEG. F (SETAFLASH)

FLAMMABLE LIMITS /% VOLUME IN AIR
 LOWER: NA UPPER: NA

EXTINGUISHING MEDIA

USE WATER FOG, "ALCOHOL" FOAM, DRY CHEMICAL OR CO2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT. WATER OR FOAM MAY CAUSE FROTHING WHICH CAN BE VIOLENT IF SPRAYED INTO CONTAINER OF HOT OR BURNING PRODUCT. USE WATER TO COOL FIRE-EXPOSED CONTAINERS.

(CONTINUED ON PAGE #4)

PRODUCT NAME: 220 B CURING AGENT**SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS**

MATERIAL WILL NOT BURN UNLESS PREHEATED. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR (HELMET WITH FACE SHIELD, BUNKER COATS, GLOVES AND RUBBER BOOTS), INCLUDING A POSITIVE PRESSURE NISCH APPROVED SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS

DELAYED LUNG DAMAGE (PULMONARY EDEMA) CAN BE EXPERIENCED AFTER EXPOSURE TO COMBUSTION PRODUCTS, SOMETIMES HOURS AFTER EXPOSURE. NITROGEN OXIDES AND NITROGEN CONTAINING ORGANIC COMPOUNDS, TOXIC LEVELS OF CARBON MONOXIDE, CARBON DIOXIDE, IRRITATING ALDEHYDES AND KETONES MAY BE FORMED ON BURNING.

SECTION IX**REACTIVITY**

STABILITY: STABLE**HAZARDOUS POLYMERIZATION: WILL NOT OCCUR****CONDITION AND MATERIAL TO AVOID:**

AVOID HEAT, FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS. REACTION WITH EPOXY RESINS CAN PRODUCE CONSIDERABLE HEAT.

HAZARDOUS DECOMPOSITION PRODUCTS

NITROGEN OXIDES, CARBON MONOXIDE, CARBON DIOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS (SOME CONTAINING NITROGEN) MAY BE FORMED DURING THERMAL OR OXIDATIVE DECOMPOSITION OR COMBUSTION.

SECTION X**EMPLOYEE PROTECTION**

RESPIRATORY PROTECTION

AVOID BREATHING VAPORS / MISTS. USE A NISCH-APPROVED RESPIRATOR AS REQUIRED TO PREVENT OVEREXPOSURE. IN ACCORD WITH 29 CFR 1910.134, USE EITHER A FULL-FACE, ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE CLOTHING

WEAR CHEMICAL GOGGLES. AVOID CONTACT WITH SKIN AND CLOTHING. WEAR CHEMICAL-RESISTANT GLOVES AND PROTECTIVE CLOTHING.

ADDITIONAL PROTECTIVE MEASURES

USE VENTILATION AS REQUIRED TO CONTROL VAPOR CONCENTRATIONS. EYE WASH FOUNTAINS AND SAFETY SHOWER SHOULD BE AVAILABLE FOR EMERGENCY USE.

SECTION XI**ENVIRONMENTAL PROTECTION**

SPILL OR LEAK PROCEDURES

VENTILATE AREA. COMPONENT-2 IS RESISTANT TO BIODEGRADATION IN BIOLOGICAL WASTE WATER TREATMENT PLANTS. IT COULD BE TOXIC TO THE BIOMASS IN A TREATMENT PLANT AND COULD BE TOXIC TO FISH. PREVENT ENTRY INTO SEWERS AND WATERWAYS. MAY BURN ALTHOUGH NOT READILY IGNITABLE. --- SMALL SPILLS--- SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND OR OTHER SUITABLE MATERIAL; DISPOSE OF PROPERLY.

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PRODUCT NAME: 220 B CURING AGENT

SECTION XII

SPECIAL PRECAUTION

WARNING. EXTREMELY IRRITATING TO THE EYES. MAY CAUSE SKIN AND RESPIRATORY TRACT IRRITATION AND SENSITIZATION. CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, CAN CONTAIN HAZARDOUS PRODUCT RESIDUES. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, APPLYING COSMETIC, OR USING TOILET FACILITIES. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE. CONTAMINATED LEATHER ARTICLES INCLUDING SHOES CANNOT BE DECONTAMINATED AND SHOULD BE DESTROYED.

HEATING THIS CURING AGENT IN THE PRESENCE OF AIR MAY CAUSE THERMAL AND OXIDATIVE DECOMPOSITION. WITH SOME EPOXY RESINS, IT MAY PRODUCE EXOTHERMIC REACTIONS WHICH IN LARGE MASSES CAN CAUSE RUNAWAY POLYMERIZATION AND CHARRING OF THE REACTANTS. FUMES AND VAPORS FROM THE THERMAL AND CHEMICAL DECOMPOSITIONS VARY WIDELY IN COMPOSITION AND TOXICITY. DO NOT BREATHE FUMES. USE A NIOSH-APPROVED RESPIRATOR AS REQUIRED TO PREVENT OVER EXPOSURE. IN ACCORD WITH 29 CFR 1910.134, USE EITHER A ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

STORE IN A COOL, DRY PLACE WITH ADEQUATE VENTILATION. KEEP AWAY FROM OPEN FLAMES AND HIGH TEMPERATURES. MISUSE OF EMPTY CONTAINERS CAN BE HAZARDOUS. CUTTING OR WELDING OF EMPTY CONTAINERS MIGHT CAUSE FIRE, EXPLOSION OR TOXIC FUMES FROM RESIDUES. DO NOT PRESSURIZE CONTAINERS TO EMPTY THEM.

SECTION XIII

TRANSPORTATION REQUIREMENTS

**DEPARTMENT OF TRANSPORTATION CLASSIFICATION:
NOT HAZARDOUS BY D.O.T REGULATIONS**

SECTION XIV

OTHER REGULATORY CONTROLS

THE COMPONENTS OF THIS PRODUCT ARE LISTED ON THE EPA / TSCA INVENTORY OF CHEMICAL SUBSTANCES.

PROTECTION OF STRATOSPHERE OZONE (PURSUANT TO SECTION 611 OF THE CLEAN AIR ACT AMENDMENTS OF 1990): PER CFR PART 82. THIS PRODUCT DOES NOT CONTAIN NOR WAS IT DIRECTLY MANUFACTURED WITH ANY CLASS I OR CLASS II OZONE DEPLETING SUBSTANCE.

IN ACCORDANCE WITH SARA TITLE III, SECTION 313, THE ATTACHED ENVIRONMENTAL DATA SHEET (EDS) SHOULD ALWAYS BE COPIED AND SENT WITH THE MSDS.

SECTION XV

STATE REGULATORY INFORMATION

THE FOLLOWING CHEMICALS ARE SPECIFICALLY LISTED BY INDIVIDUAL STATES; OTHER PRODUCTS SPECIFIC HEALTH AND SAFETY DATA IN OTHER SECTIONS OF THE MSDS MAY ALSO BE APPLICABLE FOR STATE REQUIREMENTS. FOR DETAILS ON YOUR REGULATORY REQUIREMENTS YOU SHOULD CONTACT THE APPROPRIATE AGENCY IN YOUR STATE.

<u>STATE LISTED COMPONENT</u>	<u>PERCENT</u>	<u>STATE CODE</u>
TRIETHYLENETETRAMINE (TETA) (CAS NO: 112-24-3)	< 16	CA, FL, MA, NJ, PA
TETRAETHYLENEMPENTAMINE (CAS NO: 112-57-2)	< 10	FL, MA, NJ, PA

(CONTINUED ON PAGE #6)

PRODUCT NAME: 220 B CURING AGENT

SECTION XVI

SPECIAL NOTES

AFTER FURTHER REVIEW OF ALL AVAILABLE TOXICITY STUDIES ON TRIETHYLENETETRAMINE (TETA) , IT WAS CONCLUDED THAT THESE STUDIES DID NOT PROVIDE SIGNIFICANT EVIDENCE OF LIVER, KIDNEY, CNS AND REPRODUCTIVE TARGET ORGAN TOXICITY.

REGULATORY INFORMATION: (NOT MEANT TO BE ALL-INCLUSIVE--SELECTED REGULATIONS REPRESENTED).

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