

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

JULIE INDUSTRIES , INC.

DATE: FEBRUARY 27, 2006

134 PARK ST.

NORTH READING, MA 01864

EMERGENCY PHONE: 866-714-3665

PRODUCT: 5500, PART A

PRODUCT DESCRIPTION: EPOXY ADHESIVE; PART A

2. COMPOSITION/INFORMATION ON INGREDIENTS

MATERIAL	CAS #	% BY WT.	OSHA EXPOSURE GUIDELINES	
			TLV-TWA	PEL-STEL
EPOXY RESIN	025085-99-8	40 – 55%	N.A.	N.A.
C12 – C14 MONO-FUNCTIONAL EPOXY DILUENT	68609-97-2	7 – 13%	N.A.	N.A.
BUTYL BENZYL PHTHALATE	85-68-7	1 – 3%	5 mg/M ³	5 mg/M ³

3. HAZARDOUS IDENTIFICATIONS

EMERGENCY OVERVIEW: CAUSES EYE IRRITATION. CAN CAUSE RESPIRATORY IRRITATION. CAN CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION. SMOKING AND/OR CONSUMPTION OF ALCOHOLIC BEVERAGES MAY INCREASE TOXIC EFFECTS OF THIS MATERIAL. CAN CAUSE DERMATITIS.

POTENTIAL HEALTH EFFECTS:

EYE: MAY CAUSE SEVERE IRRITATION. MAY DAMAGE EYES.

SKIN: PROLONGED EXPOSURE MAY CAUSE SKIN IRRITATION. MAY CAUSE DRYING OR FLAKING OF SKIN..

INGESTION: INGESTION MAY CAUSE SEVERE INJURY TO INTESTINAL TRACT, LIVER, KIDNEYS, STOMACH, THROAT, LUNGS, MOUTH AND MUCOUS MEMBRANES. HARMFUL OR FATAL IF SWALLOWED. DO NOT INGEST.

INHALATION: OVEREXPOSURE MAY CAUSE RESPIRATORY TRACT IRRITATION. PROLONGED OVEREXPOSURE MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION WITH NARCOTIC EFFECTS (HEADACHES, DIZZINESS). KEEP EXPOSURE BELOW OSHA EXPOSURE LIMITS.

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CHRONIC EFFECTS / CARCINOGENICITY (CANCER CAUSING):

IARC : NOT SUSPECTED AS A HUMAN CARCINOGEN
OSHA : NOT SUSPECTED AS A HUMAN CARCINOGEN
NTP : NOT SUSPECTED AS A HUMAN CARCINOGEN
OTHER : NONE KNOWN

4. FIRST AID MEASURES

EYES: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.

SKIN: WASH WITH SOAP AND WATER. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS OR PERSISTS. IMMEDIATELY REMOVE CONTAMINATED CLOTHING.

INGESTION: IF SWALLOWED, SEEK MEDICAL ATTENTION IMMEDIATELY.

INHALATION: REMOVE TO FRESH AIR. RESTORE BREATHING IF NECESSARY. GET MEDICAL ATTENTION. THIS MATERIAL CAN CAUSE LUNG DAMAGE.

DO NOT LEAVE VICTIM UNATTENDED.

5. FIRE FIGHTING MEASURES AND FIRE HAZARDS

OSHA CLASS: III B

FLASH POINT: >200°F SETAFLASH METHOD

LOWER EXPLOSIVE LIMIT: N.A. %

GENERAL HAZARD: TOXIC GASES WILL FORM UPON COMBUSTION. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT. WHEN HEATED ABOVE 250°F, TDI IS RELEASED. TDI (TOLUENE DIISOCYANATE) IS A CARCINOGEN.

FIRE FIGHTING EQUIPMENT: RESPIRATORY AND EYE PROTECTION REQUIRED FOR FIRE FIGHTING PERSONNEL. FULL PROTECTIVE EQUIPMENT AND A SELF-CONTAINED BREATHING APPARATUS (SCBA) SHOULD BE USED IN ALL INDOOR FIRES AND ANY LARGE OUTDOOR FIRES.

HAZARDOUS COMBUSTION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, SMOKE AND FUMES, HYDROCARBON FRAGMENTS, PHOSGENE, NITROGEN OXIDES, HYDROGEN CYANIDE, TOLUENE DIISOCYANATE (TDI).

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6. ACCIDENTAL RELEASE MEASURES (SPILLS OR LEAKS)

KEEP ALL SOURCES OF IGNITION AND HOT METAL SURFACES AWAY FROM SPILL. ISOLATE THE DANGER AREA AND KEEP UNAUTHORIZED PERSONNEL OUT. STOP SPILL IF IT CAN BE DONE WITH MINIMAL RISK. WEAR APPROPRIATE PROTECTIVE EQUIPMENT INCLUDING RESPIRATOR PROTECTION AS CONDITIONS WARRANT (SEE SECTION 8). PREVENT ADDITIONAL DISCHARGE OF MATERIAL. NOTIFY THE APPROPRIATE AUTHORITIES IMMEDIATELY. CONTAIN SPILLED LIQUID WITH SAND, EARTH OR OTHER NON-COMBUSTIBLE INERT ABSORBENT MATERIAL. PREVENT RUN OFF FROM ENTERING STORM SEWERS, DITCHES OR WATERWAYS. TRANSFER ABSORBED WASTE MATERIAL INTO PROPERLY IDENTIFIED DRUMS. TREAT WASTE MATERIAL WITH SAME PRECAUTIONS AS THE ADHESIVE.

DO NOT USE SOLVENT OR FLAMMABLE LIQUID TO HELP CLEAN UP AN ACCIDENTAL RELEASE.

RELEASE TO THE ENVIRONMENT MAY BE REPORTABLE UNDER ENVIRONMENTAL REGULATIONS

7. HANDLING AND STORAGE

HANDLING: OPEN CONTAINER SLOWLY TO RELIEVE ANY PRESSURE. DO NOT ENTER CONFINED SPACES SUCH AS TANKS WITHOUT FOLLOWING PROPER ENTRY PROCEDURES AS DESCRIBED IN OSHA REGULATIONS AT 29 CFR 1910.146. DO NOT BREATHE VAPORS. THE USE OF RESPIRATORY PROTECTION IS RECOMMENDED WHEN AIRBORNE CONCENTRATIONS OF VAPOR EXCEED EXPOSURE GUIDELINES. WASH THOROUGHLY AFTER HANDLING. DO NOT WEAR CONTAMINATED CLOTHING OR SHOES. WEAR APPROPRIATE PROTECTIVE GLOVES AND CLOTHING TO PREVENT PROLONGED OR REPEATED SKIN CONTACT. AVOID CONTACT WITH EYES.

"EMPTY" CONTAINERS MAY CONTAIN LIQUID AND VAPOR RESIDUE AND MAY BE DANGEROUS. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, OR OTHER SOURCES OF IGNITION. "EMPTY" DRUMS SHOULD BE COMPLETELY DRAINED, PROPERLY BUNGED, AND PROMPTLY SHIPPED TO THE SUPPLIER OR A DRUM RECONDITIONER. ALL CONTAINERS SHOULD BE DISPOSED OF IN ACCORDANCE WITH GOVERNMENTAL REGULATIONS.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, SMOKE AND FUMES, HYDROCARBON FRAGMENTS, ISOCYANATES, HYDROGEN CYANIDE, NITROGEN OXIDES, TOLUENE DIISOCYANATE (TDI).

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

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STORAGE: KEEP CONTAINERS TIGHTLY CLOSED. USE AND STORE THIS MATERIAL IN COOL, DRY, WELL-VENTILATED AREA AWAY FROM HEAT, DIRECT SUNLIGHT, HOT METAL SURFACES, AND ALL SOURCES OF IGNITION. POST AREA "NO SMOKING OR OPEN FLAMES." STORE ONLY IN APPROVED CONTAINERS. PROTECT CONTAINERS AGAINST PHYSICAL DAMAGE. INDOOR STORAGE SHOULD MEET OSHA STANDARDS AND APPROPRIATE FIRE CODES.

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES.

CONSULT NFPA AND OSHA CODES.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION: A NIOSH/MSHA APPROVED AIR PURIFYING RESPIRATOR WITH AN ORGANIC VAPOR CARTRIDGE MAY BE USED UNDER CONDITIONS WHERE AIRBORNE CONCENTRATIONS ARE EXPECTED TO EXCEED EXPOSURE GUIDELINES. PROTECTION PROVIDED BY AIR PURIFYING RESPIRATORS IS LIMITED. REFER TO RESPIRATOR MANUFACTURER'S SELECTION GUIDE FOR APPROPRIATE RESPIRATOR FOR CONDITIONS ENCOUNTERED. IF IN DOUBT, SEEK THE ADVICE OF AN INDUSTRIAL HYGIENIST OR SAFETY PROFESSIONAL FOR APPROPRIATE AIR PURIFYING RESPIRATORY EQUIPMENT. USE POSITIVE PRESSURE AIR SUPPLIED RESPIRATOR IF THERE IS POTENTIAL FOR AN UNCONTROLLED RELEASE, EXPOSURE LEVELS ARE NOT KNOWN, OR IN ANY OTHER CIRCUMSTANCES WHERE AIR PURIFYING RESPIRATORS MAY NOT PROVIDE ADEQUATE PROTECTION. RESPIRATORY PROTECTION DOES NOT PROVIDE SAFETY FROM FLAMMABLE ATMOSPHERES. DO NOT ENTER CONCENTRATIONS OF VAPORS AT, NEAR OR ABOVE THE LOWER FLAMMABLE LIMIT (LFL). WHEN RESPIRATORY PROTECTION IS USED, A RESPIRATORY PROTECTION PROGRAM MEETING OSHA REGULATIONS AT 29 CFR 1910.134 MUST BE FOLLOWED.

SKIN PROTECTION: THE USE OF GLOVES IMPERMEABLE TO THE SPECIFIC MATERIAL HANDLED IS ADVISED TO PREVENT PROLONGED OR REPEATED SKIN CONTACT. WHERE SPLASHING IS LIKELY TO OCCUR, APRONS IMPERMEABLE TO THE SPECIFIC MATERIAL MAY BE WORN. REFER TO THE GLOVE AND PROTECTIVE CLOTHING MANUFACTURER'S SELECTION GUIDE FOR APPROPRIATE MATERIAL.

EYE PROTECTION: APPROVED CHEMICAL SPLASH GOGGLES SHOULD BE WORN TO SAFEGUARD AGAINST POTENTIAL EYE CONTACT, IRRITATION OR INJURY. WHERE SPLASHING IS LIKELY TO OCCUR, HARD HATS AND FACE SHIELDS MAY BE USED TO PROVIDE ADDITIONAL PROTECTION. EYE WASH FACILITIES SHOULD BE AVAILABLE IN THE WORK AREA.

ENGINEERING CONTROLS: PROVIDE SUFFICIENT MECHANICAL VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S). THE USE OF LOCAL EXHAUST VENTILATION IS RECOMMENDED. PROVIDE MECHANICAL VENTILATION OF CONFINED SPACES. IF CURRENT VENTILATION PRACTICES ARE NOT ADEQUATE TO MAINTAIN AIRBORNE CONCENTRATIONS BELOW THE ESTABLISHED EXPOSURE GUIDELINES, ADDITIONAL VENTILATION OR EXHAUST SYSTEMS MAY BE REQUIRED.

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9. PHYSICAL AND CHEMICAL PROPERTIES

SPECIFIC GRAVITY: 1.1 (68°F) Ph: N.A.
BOILING POINT: >400 °F FREEZE POINT: <32 °F
APPROXIMATE VISCOSITY: 130,000 CPS (75°F)
SOLUBILITY IN WATER: SLIGHTLY SOLUBLE
ODOR AND APPEARANCE: BEIGE PASTE WITH LOW ODOR.
% SOLIDS BY WEIGHT = 100 %

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: KEEP AWAY FROM FLAMES AND SPARK PRODUCING EQUIPMENT. NOT DANGEROUSLY UNSTABLE. WHEN HEATED ABOVE 250°F, TDI IS RELEASED. TDI IS A CARCINOGEN.

INCOMPATIBLE MATERIALS: STRONG OXIDIZING AGENTS, STRONG REDUCING AGENTS, ACIDS, BASES, OR UNSTABLE CHEMICALS, CHLOROFORM, NITRIC COMPOUNDS, PEROXIDES, SULFUR DICHLORIDE, STRONG ALKALIES.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, SMOKE AND FUMES, HYDROCARBON FRAGMENTS, PHOSGENE, NITROGEN OXIDES, HYDROGEN CYANIDE, TDI.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

11. TOXICOLOGICAL INFORMATION

SKIN: DERMAL LD50 = N.A. mg/kg

INGESTION: ORAL LD50 = N.A. mg/kg

CHRONIC: OVEREXPOSURE MAY CAUSE CORNEAL OPACITY. OVEREXPOSURE MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION CAUSING HEADACHES, NAUSEA, AND DIZZINESS.

CHRONIC/CARCINOGENICITY (CANCER CAUSING):
THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS KNOWN TO THE STATE OF CALIFORNIA (PROPOSITION 65) TO CAUSE CANCER OR REPRODUCTIVE TOXICITY: _____

NONE KNOWN

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PAGE 6 OF 8
5500, PART A

OTHER:

NONE KNOWN

12. ECOLOGICAL INFORMATION

NO DATA AVAILABLE.

13. DISPOSAL CONSIDERATIONS

INCINERATE AT AN EPA APPROVED FACILITY OR DISPOSE OF IN ACCORDANCE TO ALL FEDERAL, STATE AND LOCAL REGULATIONS.

EPOXY 5500, PART A IS A HAZARDOUS WASTE IF DISCARDED. (CFR., VOL. 40, PART 261, PGS. 51-114).

SEE SECTION 2, PAGE 1 OF THIS MSDS FOR HAZARDOUS INGREDIENTS.

PROPER WASTE DISPOSAL IS THE RESPONSIBILITY OF THE OWNER OF THE WASTE!

CALL HELMITIN INC. FOR FURTHER INFORMATION.

14. TRANSPORTATION INFORMATION

D O T:

PROPER SHIPPING NAME: NOT REGULATED

HAZARD CLASSIFICATION: _____

UN#: _____

PACKING GROUP: _____

ALL PACKAGED MATERIAL MUST BE LABELED IN ACCORDANCE WITH DOT AND OSHA STANDARDS.

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15. REGULATORY INFORMATION

OSHA: NOT HAZARDOUS

SECTION 313: THIS PRODUCT CONTAINS THE FOLLOWING SUBSTANCES SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND CFR PART 372: _____

BUTYL BENZYL PHTHALATE

V.O.C.: 0 LBS/GAL
0 G/L

HAZARD INDEX:

0: MINIMAL HAZARD 2: MODERATE HAZARD
1: SLIGHT HAZARD 3: SERIOUS HAZARD
4: SEVERE HAZARD

HMIS RATINGS:

HEALTH: 1

REACTIVITY: 0

FLAMMABILITY: 1

PERSONAL PROTECTION: DEPENDS ON APPLICATION AND VENTILATION.

TSCA: COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

16. OTHER INFORMATION

MSDS STATUS: REVISED SECTIONS 1-16.

ALL EMPLOYEES OR CONTRACTORS, ETC., WHO USE THIS PRODUCT MUST HAVE ACCESS TO THIS MATERIAL SAFETY DATA SHEET.

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17. DEFINITIONS

ASPIRATION HAZARD: THE DANGER OF DRAWING MATERIAL INTO THE LUNGS, LEADING TO AN INFLAMMATORY RESPONSE THAT CAN BE FATAL.

CFR: CODE OF FEDERAL REGULATIONS. A COLLECTION OF REGULATIONS ESTABLISHED BY LAW.

CARCINOGEN: A MATERIAL THAT EITHER CAUSES CANCER IN HUMANS, OR IS CONSIDERED CAPABLE OF CAUSING CANCER IN HUMANS.

COMBUSTIBLE: A TERM USED TO CLASSIFY CERTAIN MATERIALS WITH LOW FLASH POINTS THAT IGNITE EASILY. FOR OSHA IT HAS A FLASH POINT >100°F BUT BELOW 200°F.

D.O.T.: U.S. DEPT. OF TRANSPORTATION

FLAMMABLE: A MATERIAL THAT GIVES OFF VAPORS THAT READILY IGNITE AT ROOM TEMPERATURE. OSHA DEFINES FLAMMABLE AS A MATERIAL WITH A FLASH POINT <100°F.

FLASH POINT: THE LOWEST POINT AT WHICH A LIQUID GIVES OFF SUFFICIENT VAPOR TO FORM AN IGNITABLE MIXTURE WITH AIR.

HAZARDOUS: ANY SUBSTANCE OR MIXTURE OF SUBSTANCES HAVING PROPERTIES CAPABLE OF PRODUCING ADVERSE EFFECTS ON THE HEALTH OR SAFETY OF A HUMAN.

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IRRITANT: A SUBSTANCE CAPABLE OF CAUSING AN INFLAMMATORY EFFECT ON LIVING TISSUE BY CHEMICAL ACTION AT THE SITE OF CONTACT.

LD50: LETHAL DOSE 50. THE SINGLE DOSE OF A SUBSTANCE THAT CAUSES DEATH OF 50% OF AN ANIMAL POPULATION FROM EXPOSURE TO THE SUBSTANCE FROM ANY ROUTE OTHER THAN INHALATION.

L.E.L.: LOWER EXPLOSIVE LIMIT. THE LOWEST CONCENTRATION OF VAPOR THAT BURNS OR EXPLODES WHEN AN IGNITION SOURCE IS PRESENT AT AMBIENT TEMPERATURES.

L.F.L.: LOWER FLAMMABLE LIMIT. SAME AS L.E.L.

MSHA: MINE SAFETY AND HEALTH ADMINISTRATION

N.A.: NOT APPLICABLE OR NOT AVAILABLE.

N.E.: NOT ESTABLISHED

N.F.P.A.: NATIONAL FIRE PROTECTION ASSOCIATION

N.I.O.S.H.: NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH.

N.T.P. NATIONAL TOXICOLOGY PROGRAM.

O.S.H.A.: THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

P.E.L.-S.T.E.L.: PERMISSIBLE EXPOSURE LIMIT, SHORT TERM EXPOSURE LIMIT.

SYSTEMIC TOXICITY: ADVERSE EFFECTS INDUCED BY A SUBSTANCE WHICH AFFECTS THE BODY IN A GENERAL MANNER RATHER THAN LOCALLY.

T.L.V.-T.W.A.: THRESHOLD LIMIT VALUE, TIME WEIGHTED AVERAGE

T.S.C.A.: TOXIC SUBSTANCE CONTROL ACT

TOXIC: ANY CHEMICAL OR MATERIAL THAT HAS EVIDENCE OF AN ACUTE OR CHRONIC HEALTH HAZARD AND IS LISTED IN THE NIOSH REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES.

V.O.C.: VOLATILE ORGANIC COMPOUND

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NORTH READING, MA 01864

DATE: FEBRUARY 27, 2006

EMERGENCY PHONE: 866-714-3665

PRODUCT: 5500, PART B

PRODUCT DESCRIPTION: EPOXY CURATIVE; PART B

2. COMPOSITION/INFORMATION ON INGREDIENTS

MATERIAL	CAS #	% BY WT.	OSHA EXPOSURE GUIDELINES	
			TLV-TWA	PEL-STEL
POLYAMIDE	68410231	32 – 43%	N.A.	N.A.
TRIS (DIMETHYL AMINO METHYL) PHENOL	90-72-2	3 – 10%	N.A.	N.A.
PHENOL	108-95-2	2 – 5%	5 PPM	5 PPM
TETRAETHYLENE				
PENTAMINE	112-57-2	8 – 14%	N.A.	N.A.
BUTYL BENZYL PHTHALATE	85-68-7	3 – 8%	5 Mg/M ³	5 Mg/M ³

3. HAZARDOUS IDENTIFICATIONS

EMERGENCY OVERVIEW: MAY CAUSE EYE OR SKIN BURNS OR IRRITATION. CAN CAUSE RESPIRATORY IRRITATION. CAN CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION. CAN CAUSE DERMATITIS.

POTENTIAL HEALTH EFFECTS:

EYE: MAY CAUSE SEVERE IRRITATION. MAY DAMAGE OR BURN EYES.

SKIN: PROLONGED EXPOSURE MAY CAUSE SKIN IRRITATION OR BURNS. MAY CAUSE DRYING OR FLAKING OF SKIN. SKIN ABSORPTION OF MATERIAL MAY CAUSE SYSTEMIC TOXICITY.

INGESTION: INGESTION MAY CAUSE SEVERE INJURY TO INTESTINAL TRACT, LIVER, KIDNEYS, STOMACH, THROAT, LUNGS, MOUTH AND MUCOUS MEMBRANES. HARMFUL OR FATAL IF SWALLOWED. DO NOT INGEST.

INHALATION: OVEREXPOSURE MAY CAUSE SEVERE RESPIRATORY TRACT IRRITATION. PROLONGED OVEREXPOSURE MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION WITH NARCOTIC EFFECTS (HEADACHES, DIZZINESS). KEEP EXPOSURE BELOW OSHA EXPOSURE LIMITS.

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CHRONIC EFFECTS / CARCINOGENICITY (CANCER CAUSING):

IARC : NOT SUSPECTED AS A HUMAN CARCINOGEN
OSHA : NOT SUSPECTED AS A HUMAN CARCINOGEN
NTP : NOT SUSPECTED AS A HUMAN CARCINOGEN
OTHER : NONE KNOWN

4. FIRST AID MEASURES

EYES: IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION.

SKIN: WASH WITH SOAP AND WATER. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS OR PERSISTS. IMMEDIATELY REMOVE CONTAMINATED CLOTHING.

INGESTION: IF SWALLOWED, SEEK MEDICAL ATTENTION IMMEDIATELY.

INHALATION: REMOVE TO FRESH AIR. RESTORE BREATHING IF NECESSARY. GET MEDICAL ATTENTION. THIS MATERIAL CAN CAUSE LUNG DAMAGE.

DO NOT LEAVE VICTIM UNATTENDED.

5. FIRE FIGHTING MEASURES AND FIRE HAZARDS

OSHA CLASS: III B

FLASH POINT: >200°F SETAFLASH METHOD

LOWER EXPLOSIVE LIMIT: N.A. %

GENERAL HAZARD: MAY RELEASE FLAMMABLE MIXTURES WHEN TEMPERATURES ARE AT OR ABOVE THE FLASH POINT. TOXIC GASES WILL FORM UPON COMBUSTION. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT.

FIRE FIGHTING EQUIPMENT: RESPIRATORY AND EYE PROTECTION REQUIRED FOR FIRE FIGHTING PERSONNEL. FULL PROTECTIVE EQUIPMENT AND A SELF-CONTAINED BREATHING APPARATUS (SCBA) SHOULD BE USED IN ALL INDOOR FIRES AND ANY LARGE OUTDOOR FIRES.

HAZARDOUS COMBUSTION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, SMOKE AND FUMES, HYDROCARBON FRAGMENTS, NITROGEN OXIDES, AMINO COMPOUNDS.

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6. ACCIDENTAL RELEASE MEASURES (SPILLS OR LEAKS)

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DO NOT USE SOLVENT OR FLAMMABLE LIQUID TO HELP CLEAN-UP AN ACCIDENTAL RELEASE.

RELEASE TO THE ENVIRONMENT MAY BE REPORTABLE UNDER ENVIRONMENTAL REGULATIONS

7. HANDLING AND STORAGE

HANDLING: OPEN CONTAINER SLOWLY TO RELIEVE ANY PRESSURE. DO NOT ENTER CONFINED SPACES SUCH AS TANKS WITHOUT FOLLOWING PROPER ENTRY PROCEDURES AS DESCRIBED IN OSHA REGULATIONS AT 29 CFR 1910.146. DO NOT BREATHE VAPORS. THE USE OF RESPIRATORY PROTECTION IS RECOMMENDED WHEN AIRBORNE CONCENTRATIONS OF VAPOR EXCEED EXPOSURE GUIDELINES. WASH THOROUGHLY AFTER HANDLING. DO NOT WEAR CONTAMINATED CLOTHING OR SHOES. WEAR APPROPRIATE PROTECTIVE GLOVES AND CLOTHING TO PREVENT PROLONGED OR REPEATED SKIN CONTACT. AVOID CONTACT WITH EYES.

"EMPTY" CONTAINERS MAY CONTAIN LIQUID AND VAPOR RESIDUE AND MAY BE DANGEROUS. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, OR OTHER SOURCES OF IGNITION. "EMPTY" DRUMS SHOULD BE COMPLETELY DRAINED, PROPERLY BUNGED, AND PROMPTLY SHIPPED TO THE SUPPLIER OR A DRUM RECONDITIONER. ALL CONTAINERS SHOULD BE DISPOSED OF IN ACCORDANCE WITH GOVERNMENTAL REGULATIONS.

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HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

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STORAGE: KEEP CONTAINERS TIGHTLY CLOSED. USE AND STORE THIS MATERIAL IN COOL, DRY, WELL-VENTILATED AREA AWAY FROM HEAT, DIRECT SUNLIGHT, HOT METAL SURFACES, AND ALL SOURCES OF IGNITION. POST AREA "NO SMOKING OR OPEN FLAMES." STORE ONLY IN APPROVED CONTAINERS. PROTECT CONTAINERS AGAINST PHYSICAL DAMAGE. INDOOR STORAGE SHOULD MEET OSHA STANDARDS AND APPROPRIATE FIRE CODES.

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING OR USING TOILET FACILITIES.

CONSULT NFPA AND OSHA CODES.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

RESPIRATORY PROTECTION: A NIOSH/MSHA APPROVED AIR PURIFYING RESPIRATOR WITH AN ORGANIC VAPOR CARTRIDGE MAY BE USED UNDER CONDITIONS WHERE AIRBORNE CONCENTRATIONS ARE EXPECTED TO EXCEED EXPOSURE GUIDELINES. PROTECTION PROVIDED BY AIR PURIFYING RESPIRATORS IS LIMITED. REFER TO RESPIRATOR MANUFACTURER'S SELECTION GUIDE FOR APPROPRIATE RESPIRATOR FOR CONDITIONS ENCOUNTERED. IF IN DOUBT, SEEK THE ADVICE OF AN INDUSTRIAL HYGIENIST OR SAFETY PROFESSIONAL FOR APPROPRIATE AIR PURIFYING RESPIRATORY EQUIPMENT. USE POSITIVE PRESSURE AIR SUPPLIED RESPIRATOR IF THERE IS POTENTIAL FOR AN UNCONTROLLED RELEASE, EXPOSURE LEVELS ARE NOT KNOWN, OR IN ANY OTHER CIRCUMSTANCES WHERE AIR PURIFYING RESPIRATORS MAY NOT PROVIDE ADEQUATE PROTECTION. RESPIRATORY PROTECTION DOES NOT PROVIDE SAFETY FROM FLAMMABLE ATMOSPHERES. DO NOT ENTER CONCENTRATIONS OF VAPORS AT, NEAR OR ABOVE THE LOWER FLAMMABLE LIMIT (LFL). WHEN RESPIRATORY PROTECTION IS USED, A RESPIRATORY PROTECTION PROGRAM MEETING OSHA REGULATIONS AT 29 CFR 1910.134 MUST BE FOLLOWED.

SKIN PROTECTION: THE USE OF GLOVES IMPERMEABLE TO THE SPECIFIC MATERIAL HANDLED IS ADVISED TO PREVENT PROLONGED OR REPEATED SKIN CONTACT. WHERE SPLASHING IS LIKELY TO OCCUR, APRONS IMPERMEABLE TO THE SPECIFIC MATERIAL MAY BE WORN. REFER TO THE GLOVE AND PROTECTIVE CLOTHING MANUFACTURER'S SELECTION GUIDE FOR APPROPRIATE MATERIAL.

EYE PROTECTION: APPROVED CHEMICAL SPLASH GOGGLES SHOULD BE WORN TO SAFEGUARD AGAINST POTENTIAL EYE CONTACT, IRRITATION OR INJURY. WHERE SPLASHING IS LIKELY TO OCCUR, HARD HATS AND FACE SHIELDS MAY BE USED TO PROVIDE ADDITIONAL PROTECTION. EYE WASH FACILITIES SHOULD BE AVAILABLE IN THE WORK AREA.

ENGINEERING CONTROLS: PROVIDE SUFFICIENT MECHANICAL VENTILATION TO MAINTAIN EXPOSURE BELOW TLV(S). THE USE OF LOCAL EXHAUST VENTILATION IS RECOMMENDED. PROVIDE MECHANICAL VENTILATION OF CONFINED SPACES. IF CURRENT VENTILATION PRACTICES ARE NOT ADEQUATE TO MAINTAIN AIRBORNE CONCENTRATIONS BELOW THE ESTABLISHED EXPOSURE GUIDELINES, ADDITIONAL VENTILATION OR EXHAUST SYSTEMS MAY BE REQUIRED.

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9. PHYSICAL AND CHEMICAL PROPERTIES

SPECIFIC GRAVITY: 1.1 (68°F)

Ph: N/A

BOILING POINT: >260 °F

FREEZE POINT: <32 °F

APPROXIMATE VISCOSITY: 75,000 CPS (75°F)

SOLUBILITY IN WATER: NOT SOLUBLE

ODOR AND APPEARANCE: BLACK PASTE WITH AMINE ODOR.

% SOLIDS BY WEIGHT = 100 %

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: KEEP AWAY FROM FLAMES AND SPARK PRODUCING EQUIPMENT. NOT DANGEROUSLY UNSTABLE. AVOID BUILD-UP OF STATIC ELECTRICITY.

INCOMPATIBLE MATERIALS: STRONG OXIDIZING AGENTS, STRONG REDUCING AGENTS, ACIDS, BASES, OR UNSTABLE CHEMICALS, CHLOROFORM, PEROXIDES, SULFUR DICHLORIDE, STRONG ALKALIES, ANHYDRIDES, MERCAPTANS, MATERIALS THAT REACT WITH AMINES.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON MONOXIDE, CARBON DIOXIDE, SMOKE AND FUMES, HYDROCARBON FRAGMENTS, NITROGEN OXIDES, AMINO COMPOUNDS.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

11. TOXICOLOGICAL INFORMATION

SKIN: DERMAL LD50 = N.A. mg/kg

INGESTION: ORAL LD50 = N.A. mg/kg

CHRONIC: OVEREXPOSURE MAY CAUSE CORNEAL OPACITY. OVEREXPOSURE MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION CAUSING HEADACHES, NAUSEA, DIZZINESS.

CHRONIC/CARCINOGENICITY (CANCER CAUSING):

THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS KNOWN TO THE STATE OF CALIFORNIA (PROPOSITION 65) TO CAUSE CANCER OR REPRODUCTIVE TOXICITY: _____

NONE KNOWN

CONTINUED ON NEXT PAGE

PAGE 6 OF 8
5500, PART B

OTHER:

NONE KNOWN

12. ECOLOGICAL INFORMATION

NO DATA AVAILABLE.

13. DISPOSAL CONSIDERATIONS

INCINERATE AT AN EPA APPROVED FACILITY OR DISPOSE OF IN ACCORDANCE TO ALL FEDERAL, STATE AND LOCAL REGULATIONS.

EPOXY 5500 IS A HAZARDOUS WASTE IF DISCARDED. (CFR., VOL. 40, PART 261, PGS. 51-114).

SEE SECTION 2, PAGE 1 OF THIS MSDS FOR HAZARDOUS INGREDIENTS.

PROPER WASTE DISPOSAL IS THE RESPONSIBILITY OF THE OWNER OF THE WASTE!

CALL HELMITIN INC. FOR FURTHER INFORMATION.

14. TRANSPORTATION INFORMATION

D O T:

PROPER SHIPPING NAME: NOT REGULATED

HAZARD CLASSIFICATION: _____

UN#: _____

PACKING GROUP: _____

ALL PACKAGED MATERIAL MUST BE LABELED IN ACCORDANCE WITH DOT AND OSHA STANDARDS.

CONTINUED ON NEXT PAGE

15. REGULATORY INFORMATION

OSHA: HAZARDOUS MATERIAL BY DEFINITION OF HAZARD COMMUNICATION STANDARD (29CFR 1910.1200).

SECTION 313: THIS PRODUCT CONTAINS THE FOLLOWING SUBSTANCES SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF TITLE III OF SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 AND CFR PART 372: _____

BUTYL BENZYL PHTHALATE, PHENOL

V.O.C.: 0 LBS/GAL
 0 G/L

HAZARD INDEX:

0: MINIMAL HAZARD 2: MODERATE HAZARD
1: SLIGHT HAZARD 3: SERIOUS HAZARD
4: SEVERE HAZARD

HMIS RATINGS:

HEALTH: 2

REACTIVITY: 0

FLAMMABILITY: 1

PERSONAL PROTECTION: DEPENDS ON APPLICATION AND VENTILATION.

TSCA: COMPONENTS OF THIS PRODUCT ARE LISTED ON THE TSCA INVENTORY.

16. OTHER INFORMATION

MSDS STATUS: REVISED SECTIONS 1-16.

ALL EMPLOYEES OR CONTRACTORS, ETC., WHO USE THIS PRODUCT MUST HAVE ACCESS TO THIS MATERIAL SAFETY DATA SHEET.

17. DEFINITIONS

ASPIRATION HAZARD: THE DANGER OF DRAWING MATERIAL INTO THE LUNGS, LEADING TO AN INFLAMMATORY RESPONSE THAT CAN BE FATAL.

CFR: CODE OF FEDERAL REGULATIONS. A COLLECTION OF REGULATIONS ESTABLISHED BY LAW.

CARCINOGEN: A MATERIAL THAT EITHER CAUSES CANCER IN HUMANS, OR IS CONSIDERED CAPABLE OF CAUSING CANCER IN HUMANS.

COMBUSTIBLE: A TERM USED TO CLASSIFY CERTAIN MATERIALS WITH LOW FLASH POINTS THAT IGNITE EASILY. FOR OSHA IT HAS A FLASH POINT >100°F BUT BELOW 200°F.

D.O.T.: U.S. DEPT. OF TRANSPORTATION

FLAMMABLE: A MATERIAL THAT GIVES OFF VAPORS THAT READILY IGNITE AT ROOM TEMPERATURE. OSHA DEFINES FLAMMABLE AS A MATERIAL WITH A FLASH POINT <100°F.

FLASH POINT: THE LOWEST POINT AT WHICH A LIQUID GIVES OFF SUFFICIENT VAPOR TO FORM AN IGNITABLE MIXTURE WITH AIR.

HAZARDOUS: ANY SUBSTANCE OR MIXTURE OF SUBSTANCES HAVING PROPERTIES CAPABLE OF PRODUCING ADVERSE EFFECTS ON THE HEALTH OR SAFETY OF A HUMAN.

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IRRITANT: A SUBSTANCE CAPABLE OF CAUSING AN INFLAMMATORY EFFECT ON LIVING TISSUE BY CHEMICAL ACTION AT THE SITE OF CONTACT.

LD50: LETHAL DOSE 50. THE SINGLE DOSE OF A SUBSTANCE THAT CAUSES DEATH OF 50% OF AN ANIMAL POPULATION FROM EXPOSURE TO THE SUBSTANCE FROM ANY ROUTE OTHER THAN INHALATION.

L.E.L.: LOWER EXPLOSIVE LIMIT. THE LOWEST CONCENTRATION OF VAPOR THAT BURNS OR EXPLODES WHEN AN IGNITION SOURCE IS PRESENT AT AMBIENT TEMPERATURES.

L.F.L.: LOWER FLAMMABLE LIMIT. SAME AS L.E.L.

MSHA: MINE SAFETY AND HEALTH ADMINISTRATION

N.A.: NOT APPLICABLE OR NOT AVAILABLE.

N.E.: NOT ESTABLISHED

N.F.P.A.: NATIONAL FIRE PROTECTION ASSOCIATION

N.I.O.S.H.: NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH.

N.T.P. NATIONAL TOXICOLOGY PROGRAM.

O.S.H.A.: THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

P.E.L.-S.T.E.L.: PERMISSIBLE EXPOSURE LIMIT, SHORT TERM EXPOSURE LIMIT.

SYSTEMIC TOXICITY: ADVERSE EFFECTS INDUCED BY A SUBSTANCE WHICH AFFECTS THE BODY IN A GENERAL MANNER RATHER THAN LOCALLY.

T.L.V.-T.W.A.: THRESHOLD LIMIT VALUE, TIME WEIGHTED AVERAGE

T.S.C.A.: TOXIC SUBSTANCE CONTROL ACT

TOXIC: ANY CHEMICAL OR MATERIAL THAT HAS EVIDENCE OF AN ACUTE OR CHRONIC HEALTH HAZARD AND IS LISTED IN THE NIOSH REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES.

V.O.C.: VOLATILE ORGANIC COMPOUND