

MATERIAL SAFETY DATA SHEET

24 HOUR EMERGENCY ASSISTANCE

CHEM•TEL: 1-800-255-3924

GENERAL ASSISTANCE

TELE-TECH: 405-495-8848

HEALTH: 2

HAZARD RATING

FIRE: 0 LEAST = 0 SLIGHT = 1 MODERATE = 2

REACTIVITY: 0 HIGH = 3 EXTREME = 4

SECTION I

PRODUCT: VPI 150 CONDUCTIVE EPOXY ADHESIVE, PART A
CHEMICAL NAME: MIXTURE
CHEMICAL FAMILY: EPOXY
PRODUCT DESCRIPTION: EPOXY RESIN

SECTION II-A

PRODUCT / INGREDIENT

<u>No.</u>	<u>COMPOSITION</u>	<u>CAS NUMBER</u>	<u>PERCENT</u>
1	EPICHLOROHYDRIN BISPHENOL –A RESIN	25068-38-6	60-65
2	EPOXY RESIN	28064-14-4	10-15
3	ALKYL GLYCIDYL ESTER	68609-97-2	20-25
4	CARBON BLACK	1333-86-4	5-10

SECTION II-B

ACUTE TOXICITY DATA

<u>No.</u>	<u>ACUTE ORAL LD50</u>	<u>ACUTE DERMAL LD50</u>	<u>ACUTE INHALATION LC50</u>
1	> 5.0 g/kg (rat)	> 6.0 g/kg (rabbit)	Not available
2	> 5.0 g/kg (rat)	> 3.0 g/kg (rabbit)	> 1.7 mg/L (rat)
3	> 2.0 g/kg	> 2.0 g/kg	> 5.0 mg/L
4	> 8.0 g/kg (rat)	Not available	Not available

SECTION III

HEALTH INFORMATION

THE HEATH EFFECTS NOTED BELOW ARE CONSISTENT WITH REQUIREMENTS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910-1200).

EYE CONTACT: IRRITATING TO THE EYES.

SKIN CONTACT: MAY CAUSE SKIN IRRITATION. HAS BEEN KNOWN TO CAUSE ALLERGIC SKIN REACTION.

INHALATION: MAY CAUSE A MILD IRRITATION TO THE NOSE, THROAT, AND RESPIRATORY SYSTEM.

INGESTION: SINGLE DOSE ORAL TOXICITY IS CONSIDERED TO BE EXTREMELY LOW. NO HAZARDS ANTICIPATED FROM SWALLOWING SMALL AMOUNTS INCIDENTAL TO NORMAL HANDLING OPERATIONS.

SIGNS AND SYMPTOMS: IRRITATION AS NOTED ABOVE. SKIN SENSITIZATION (ALLERGY) MAY BE EVIDENCED BY RASHES, ESPECIALLY HIVES.

AGGRAVATED MEDICAL CONDITIONS: PRE-EXISTING SKIN AND EYE DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT. PRE-EXISTING SKIN AND LUNG ALLERGIES MAY INCREASE THE CHANCE OF DEVELOPING INCREASED ALLERGY SYMPTOMS FROM EXPOSURE TO THIS PRODUCT.

OTHER HEALTH EFFECTS: BASED ON ANIMAL STUDIES, REPEATED EXPOSURE TO COMPONENTS OF THIS PRODUCT MAY CAUSE CHANGES IN BODY WEIGHT AND IN THE LIVER AND KIDNEY. LEVELS OF 0.5% AND 1.0% WEIGHT IN THE DIET ALSO CAUSED BLOOD CHANGES AND REDUCED ERYTHROCYTE COUNT AND HEMATOCRIT.

SECTION IV OCCUPATIONAL EXPOSURE LIMITS

No.	OSHA		ACGIH		OTHER
	PEL/TWA	PEL/CEILING	TLV/TWA	TLV/STEL	
1	None established				
2	None established				
3	None established				
4	None established				

SECTION V EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: REMOVE CONTACT LENSES AT ONCE. IMMEDIATELY FLUSH EYES WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE FOR AT LEAST 30 MINUTES. HOLD EYELIDS APART WHILE FLUSHING TO RINSE ENTIRE SURFACE OF EYE AND LIDS WITH WATER.

SKIN CONTACT: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. CALL A PHYSICIAN IF IRRITATION PERSISTS. WASH CLOTHING BEFORE REUSE. CONTAMINATED LEATHER ARTICLES, INCLUDING SHOES, CANNOT BE DECONTAMINATED AND SHOULD BE DESTROYED TO PREVENT REUSE.

INHALATION: REMOVE TO FRESH AIR IF EFFECTS OCCUR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. **GET IMMEDIATE MEDICAL ATTENTION.**

INGESTION: **DO NOT INDUCE VOMITING. GET IMMEDIATE MEDICAL ATTENTION.** NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

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

SECTION VI SUPPLEMENTAL HEALTH INFORMATION

CONTACT A POISON CONTROL CENTER FOR ADDITIONAL TREATMENT INFORMATION.

SECTION VII PHYSICAL DATA

BOILING POINT (°F): NOT DETERMINED	SPECIFIC GRAVITY (H ₂ O = 1):	1.134
VAPOR PRESSURE (mm Hg @ 20°C):	Not determined	
SOLUBILITY (IN WATER):	Not soluble	
VAPOR DENSITY (AIR = 1):	Not determined	
EVAPORATION RATE (N-BUTYL ACETATE = 1):	Not determined	
APPEARANCE AND ODOR:	Black paste with little odor	
PERCENT SOLIDS	97%	
VOC	0	

SECTION VIII FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD: 299 °F TCC

FLAMMABLE LIMITS /% VOLUME IN AIR: LEL = Not applicable UEL = Not applicable

EXTINGUISHING MEDIA: USE ALCOHOL TYPE FOAM, DRY CHEMICAL, OR CO₂.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS: WATER SPRAY MAY BE INEFFECTIVE. WATER MAY BE USED TO COOL CLOSED CONTAINERS TO PREVENT PRESSURE BUILDUP AND POSSIBLE AUTO-IGNITION OR EXPLOSION WHEN EXPOSED TO EXTREME HEAT. FOG NOZZLES ARE PREFERRED IF WATER IS USED.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE KNOWN.

SECTION IX REACTIVITY

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID: AVOID HEAT AND OPEN FLAME. AVOID OXIDIZING MATERIALS.

HAZARDOUS DECOMPOSITION PRODUCTS: THERMAL DECOMPOSITION MAY PRODUCE CARBON MONOXIDE AND CARBON DIOXIDE, AS WELL AS ORGANIC COMPOUNDS OF UNKNOWN STRUCTURE.

SECTION X EMPLOYEE PROTECTION

RESPIRATORY PROTECTION: PROVIDE ADEQUATE VENTILATION. AVOID BREATHING OF VAPORS OR MISTS. AIRBORNE CONCENTRATIONS SHOULD BE KEPT TO LOWEST LEVELS POSSIBLE. WHEN EXPOSURES ARE NOT ADEQUATELY CONTROLLED, USE AN APPROVED RESPIRATOR. FOR EMERGENCY CONDITIONS, USE AN APPROVED POSITIVE-PRESSURE SELF-CONTAINED BREATHING APPARATUS.

PROTECTIVE CLOTHING: PROTECTIVE CLOTHING SUCH AS UNIFORMS, COVERALLS, OR LAB COATS MUST BE WORN. LAUNDRY OR DRY-CLEAN WHEN SOILED. GLOVES AND GOGGLES RESISTANT TO CHEMICALS AND PETROLEUM DISTILLATES REQUIRED. WHEN HANDLING LARGE QUANTITIES, IMPERVIOUS SUITS, GLOVES, AND RUBBER BOOTS MUST BE WORN.

SECTION XI ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES: VENTILATE THE AREA. AVOID BREATHING VAPOR. USE SELF-CONTAINED BREATHING APPARATUS OR SUPPLIED AIR FOR LARGE SPILLS OR CONFINED AREAS. CONTAIN SPILL IF POSSIBLE. WIPE UP OR ABSORB SUITABLE MATERIAL AND PICK UP WITH SHOVELS. PREVENT ENTRY INTO SEWERS AND WATERWAYS. DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS.

SECTION XII SPECIAL PRECAUTIONS

GROUND ALL TRANSFER EQUIPMENT. TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGE. HANDLE AS AN INDUSTRIAL CHEMICAL. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. PRACTICE GOOD CAUTION AND PERSONAL CLEANLINESS TO AVOID SKIN AND EYE CONTACT. HOLD BULK STORAGE UNDER NITROGEN BLANKET. STORE IN A COOL, DRY AREA WITH ADEQUATE VENTILATION. KEEP AWAY FROM OPEN FLAMES AND HIGH TEMPERATURES.

SECTION XIII TRANSPORTATION REQUIREMENTS

IMPORTANT NOTE: SHIPPING DESCRIPTIONS MAY VARY BASED ON MODE OF TRANSPORT, QUANTITIES, PACKAGE SIZE, AND/OR ORIGIN AND DESTINATION. CONSULT YOUR COMPANY'S HAZARDOUS MATERIALS/DANGEROUS GOODS EXPERT FOR INFORMATION SPECIFIC TO YOUR SITUATION.

GROUND (DOT): NOT REGULATED

AIR (IATA) : NOT REGULATED

OCEAN (IMDG): NOT REGULATED

SECTION XIV OTHER REGULATORY CONTROLS

NOT MEANT TO BE ALL-INCLUSIVE. SELECTED REGULATIONS PRESENTED.

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| A. | SARA TITLE III SECTION 311/312 HAZARDS: | IMMEDIATE HEALTH HAZARD |
| B. | WHMIS CLASSIFICATION: | CLASSES D2B |
| C. | TSCA STATUS: | LISTED ON TSCA INVENTORY |
| D. | OSHA HAZARD COMMUNICATION STD.: | HAZARDOUS CHEMICAL |

SECTION XV**STATE REGULATORY INFORMATION**

THE FOLLOWING CHEMICALS ARE SPECIFICALLY LISTED BY INDIVIDUAL STATES; OTHER PRODUCT 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.

STATE LISTED COMPONENT	PERCENT	STATE CODE
CARBON BLACK (CAS NO: 1333-86-4)	5-10	CA, CA65

CA = CALIFORNIA HAZ. SUBST. LIST; CA65 = CALIFORNIA SAFE DRINKING WATER AND TOXICS ENFORCEMENT ACT LIST; CT = CONNECTICUT TOX. SUBST. LIST; FL = FLORIDA SUBST. LIST; IL = ILLINOIS TOX. SUBST. LIST; LA = LOUISIANA HAZ. SUBST. LIST; MA = MASSACHUSETTS SUBST. LIST; ME = MAINE HAZ. SUBST. LIST; MN = MINNESOTA HAZ. SUBST. LIST; NJ = NEW JERSEY HAZ. SUBST. LIST; PA = PENNSYLVANIA HAZ. SUBST. LIST; RI = RHODE ISLAND HAZ. SUBST. LIST.

SECTION XVI**SPECIAL NOTES**

UPDATED MSDS.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER, VPI MAKES NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. VPI ASSUMES NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

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