

MATERIAL SAFETY DATA SHEET

IN CASE OF EMERGENCY CALL: CHEMTREC 1-800-424-9300 CONTACT ONLY IN CASE OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS.

PRODUCT NAME: **ECOPOXY HARDENER**

COMPANY NAME: ECOPOXY SYSTEMS / OCEANEARING RESEARCH AND DEVELOPMENT

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1. INGREDIENTS

MODIFIED POLYAMINE REACTION PRODUCT	CAS# TS
ETHYLENE AMINE	CAS# 111-40-0
BISPHENOL A	CAS# 80-05-7
BENZYL ALCOHOL	CAS# 100-51-6
SOYBEAN OIL	

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

BOILING POINT:	>150°C, 300°F
VAPOR PRESSURE:	76 mmHG@20°C,68°F
VAPOR DENSITY:	3.56
SOL. IN WATER:	MODERATELY SOLUBLE
SP. GRAVITY:	1.0-1.01
APPEARANCE:	PALE STRAW COLORED LIQUID
ODOR:	MODERATE AMINE ODOR

3. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 220°F	METHOD USED: PMCC
FLAMMABLE LIMITS:	LFL: 1.5 UFL: NOT DETERMINED
EXTINGUISHING MEDIA:	WATER FOG, ALCOHOL FOAM, CO2, DRY CHEMICAL
FIRE & EXPLOSION HAZARDS:	USE FULL PROTECTIVE CLOTHING. AVOID BREATHING VAPORS OR GASSES RELEASED ON EXPOSURE TO HIGH TEMPERATURE
FIRE-FIGHTING EQUIPMENT:	USE A POSITIVE PRESSURE, SELF-CONTAINED BREATHING APPARATUS.

4. REACTIVITY DATA

STABILITY: (CONDITIONS TO AVOID) CAN REACT STRONGLY WITH EPOXY RESINS AT ELEVATED TEMPERATURES.

INCOMPATIBILITY: (SPECIFIC MATERIALS TO AVOID) EXPOXY RESINS UNDER UNCONTROLLED CONDITIONS AND STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS: NITROGEN OXIDES WHEN BURNED

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

5. ENVIRONMENTAL AND DISPOSAL INFORMATION

ACTION TO TAKE FOR SPILL AND LEAKS:

LARGE SPILL: DIKE UP AND PUMP INTO APPROPRIATE CONTAINERS.

SMALL SPILL: USE NONCOMBUSTIBLE ABSORBENT MATERIAL (SAND) AND SHOVEL INTO SUITABLE CONTAINERS.

DISPOSAL METHOD: LARGE QUANTITIES SHOULD BE RECOVERED. COLLECT SMALL QUANTITIES IN WASTE METAL DRUMS AND SEAL FOR REMOVAL TO AN APPROVED LANDFILL OR INCINERATE IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

6. HEALTH HAZARD DATA

EYES: MAY CAUSE SEVERE IRRITATION WITH CORNEAL INJURY, WHICH MAY RESULT IN PERMANENT IMPAIRMENT OF VISION, EVEN BLINDNESS. VAPORS MAY IRRITATE EYES.

SKIN CONTACT: MAY CAUSE SEVERE INJURY TO SKIN FOLLOWING PROLONGED OR REPEATED CONTACT AND MAY CAUSE SKIN SENSITIZATION OR OTHER ALLERGIC RESPONSES.

SKIN ABSORPTION: A SINGLE PROLONGED EXPOSURE MAY RESULT IN THE MATERIAL BEING ABSORBED IN HARMFUL AMOUNTS.

INGESTION: MAY CAUSE GASTROINTESTINAL IRRITATION OR ULCERATION.

THE ORAL LD₅₀ FOR SOYBEAN OIL IS 23g/kg Oral Rat. THE LC₅₀ FOR SOYBEAN OIL IS 240mg/L.

INHALATION: MAY CAUSE RESPIRATORY SENSITIZATION OR ASTHMA IN SUSCEPTIBLE INDIVIDUALS. EXCESSIVE EXPOSURE MAY CAUSE IRRITATION TO UPPER RESPIRATORY TRACT.

SYSTEMIC & OTHER EFFECTS: PHENOL IS READILY ABSORBED INTO THE BODY THROUGH INHALATION, SKIN CONTACT, AND INGESTION. WHEN SUFFICIENT AMOUNTS ARE ABSORBED THE EFFECTS CAN BE: A RAPID AND IRREGULAR HEARTBEAT, LOW BLOOD PRESSURE, DIFFICULT BREATHING, COUGH, AND SKIN DISCOLORATION. DEATH CAN OCCUR IN MINUTES, USUALLY DUE TO RESPIRATORY FAILURE.

7. FIRST AID

EYES: IMMEDIATE AND CONTINUOUS IRRIGATION WITH FLOWING WATER FOR AT LEAST 30 MINUTES IS REQUIRED. PROMPTLY SEEK MEDICAL ATTENTION

SKIN: IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING, PREFERABLY UNDER A SAFETY SHOWER. SEEK MEDICAL ATTENTION IMMEDIATELY. AVOID PROLONGED OR REPEATED CONTACT TO SKIN. WASH THOROUGHLY AFTER HANDLING.

INGESTION: DO NOT INDUCE VOMITING. GIVE LARGE AMOUNTS OF WATER OR MILK IF AVAILABLE. **NEVER GIVE ANYTHING BY MOUTH TO AN UNCONCIOUS PERSON.** TRANSPORT TO MEDICAL FACILITY IMMEDIATELY.

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

NOTE TO PHYSICIAN: CORROSIVE, MAY CAUSE STRICTURE. IF LAVAGE IS PERFORMED, SUGGEST ENDOTRACHEAL AND/OR ESOPHAGOSCOPIC CONTROL. IF BURN IS PRESENT, TREAT AS ANY THERMAL BURN, AFTER DECONTAMINATION. NO SPECIFIC ANTIDOTE. SUPPORTIVE CARE. TREATMENT BASED ON JUDGMENT OF THE PHYSICIAN IN RESPONSE TO REACTIONS OF PATIENT.

8. HANDLING PRECAUTIONS

EXPOSURE GUIDELINE(S): PHENOL PEL 5 ppm FOR SKIN EXPOSURE

VENTILATION: CONTROL AIRBORNE CONCENTRATION BELOW THE EXPOSURE GUIDELINE. USE ONLY WITH ADEQUATE VENTILATION. LOCAL EXHAUST VENTILATION MAY BE NECESSARY FOR SOME OPERATIONS.

RESPIRATORY PROTECTION: ATMOSPHERIC LEVELS SHOULD BE MAINTAINED BELOW THE EXPOSURE GUIDELINE. WHEN RESPIRATORY PROTECTION IS REQUIRED FOR CERTAIN OPERATIONS, USE AN APPROVED AIR-PURIFYING RESPIRATOR.

SKIN PROTECTION: USE PROTECTIVE CLOTHING IMPERVIOUS TO THIS MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS GLOVES, BOOTS, APRON, OR FULL-BODY SUIT WILL DEPEND ON OPERATION. SAFETY SHOWER SHOULD BE LOCATED IN IMMEDIATE WORK AREA. REMOVE CONTAMINATED CLOTHING IMMEDIATELY, WASH SKIN AREA WITH SOAP AND WATER AND LAUNDRER CLOTHING BEFORE REUSE. CONTAMINATED LEATHER ITEMS, SUCH AS SHOES, BELTS AND WATCHBANDS SHOULD BE REMOVED AND DESTROYED.

EYE PROTECTION: USE CHEMICAL GOGGLES. IF VAPOR EXPOSURE CAUSES EYE IRRITATION, USE A FULL-FACE RESPIRATOR. EYE WASH FOUNTAIN SHOULD BE LOCATED IN IMMEDIATE WORK AREA.

9. ADDITIONAL INFORMATION**SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:**

GROUND ALL TRANSFER EQUIPMENT. HOLD BULK STORAGE UNDER A NITROGEN BLANKET. THIS PRODUCT SHOULD NOT COME IN CONTACT WITH COPPER OR COPPER-BEARING ALLOYS. GOOD GENERAL HOUSEKEEPING PROCUDURES SHOULD BE FOLLOWED.

10. NFPA HAZARD RATING

4=EXTREME 3=HIGH 2=MODERATE 1=SLIGHT 0=INSIGNIFICANT

HEALTH:	2
FIRE:	1
REACTIVITY:	0
SPECIFIC:	

11. REGULATORY INFORMATION: STATUS ON SUBSTANCE LISTS

THE CONCENTRATIONS SHOWN IN THIS DOCUMENT ARE MAXIMUM OR CEILING LEVELS (WEIGHT %) TO BE USED FOR REGULATIONS. TRADE SECRETS ARE INDICATED BY "TS".

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 (RQ'S) IN 40 CFR 302.4. COMPONENTS PRESENT IN THIS PRODUCT AT LEVEL WHICH COULD REQUIRE UNDER THE STATUTE ARE:

<u>CHEMICAL NAME</u>	<u>CAS NUMBER</u>	<u>% BY WEIGHT</u>	<u>RQ</u>
NONE			

SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III

SECTIONS (301-304) REQUIRE EMERGENCY PLANNING BASED ON THRESHOLD PLANNING QUANTITIES (TPQ'S) AND RELEASE REPORTING BASED ON REPORTABLE QUANTITIES (RQ'S) IN 40 CFR 355. COMPONENTS PRESENT IN THIS PRODUCT AT A LEVEL WHICH COULD REQUIRE REPORTING UNDER THIS STATUTE ARE:

<u>CHEMICAL NAME</u>	<u>CAS NUMBER</u>	<u>% BY WEIGHT</u>
NONE		

SECTIONS (311-312) REQUIRE PRODUCTS BE REVIEWED AND APPLICABLE EPA HAZARD DEFINITIONS BE IDENTIFIED AND MADE KNOWN.

<u>EPA HAZZARD CLASSIFICATIONS</u>				
ACUTE HAZARD	CHRONIC HAZARD	FIRE HAZARD	PRESSURE HAZARD	REACTIVE HAZARD
YES	YES	NO	NO	NO

SECTION (313) REQUIRES SUBMISSION OF ANNUAL REPORTS OF RELEASE OF TOXIC CHEMICALS THAT APPEAR IN 40 CFR 371 (FOR SARA 313). THIS INFORMATION MUST BE INCLUDED IN ALL MSDS'S THAT ARE DISTRIBUTED FOR THIS MATERIAL. COMPONENTS PRESENT IN THIS PRODUCT AT LEVEL WHICH COULD REQUIRE REPORTING UNDER THE STATUE ARE:

<u>CHEMICAL NAME</u>	<u>CAS NUMBER</u>	<u>% BY WEIGHT</u>
BISPHENOL A	80-05-7	32%

IF YOU ARE UNSURE IF YOU MUST REPORT MORE INFORMATION, CALL THE EPA EMERGENCY PLANNING AND RIGHT-TO-KNOW HOT LINE: 1-800-535-0202 OR 1-202-479-2449.

TOXIC SUBSTANCES CONTROL ACT (TCSA)

THE COMPONENTS OF THIS PRODUCT ARE CONTAINED ON THE CHEMICAL SUBSTANCE INVENTORY LIST.

OTHER REGULATORY INFORMATION

D.O.T. SHIPPING NAME: CORROSIVE LIQUIDS, N.O.S. (DIETHYLENETRIAMINE) CLASS 8, UN 1760 PG III
CONTAINS ISOPHORONEDIAMINE

THE INFORMATION HEREIN IS GIVEN IN GOOD FAITH, BUT NO WARRANTY EXPRESSED OR IMPLIED IS MADE. MANUFACTURER URGES SUPPLIERS AND USERS OF THIS PRODUCT TO EVALUATE IT'S SUITABILITY AND COMPLIANCE WITH LOCAL REGULATION.