

MATERIAL SAFETY DATA SHEET

IDENTITY: PB Resin Modified Epoxy Resin – Part A **Date of Preparation:** 2/1/09

SECTION I - Material and Manufacturer Identification

Manufacturer's Name & Address

Coastal Enterprises Company
P.O. Box 4875
Orange, CA 92863-4875

For Information:
(800) 845-0745

Emergency Telephone Numbers:

Transportation Emergencies: Call CHEMTREC
(800) 424-9300 (202) 483-7616 (Collect) from
Alaska & Hawaii

Health Emergencies: Call LOS ANGELES
POISON INFORMATION CENTER (24 hrs.)
(800) 356-3129

Product Name: PB Resin Modified Epoxy Resin – Part A

DOT Proper Shipping Name: Epoxy Resin

DOT Hazard Classification: N/A UN/NA Number: N/A

SECTION II - Composition / Information On Ingredients

4.4' - ISOPROPYLIDENEDIPHENOL EPICHLOROHYDRIN POLYMER	C.A.S. NO. 25068-38-6	95	100%
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SECTION III - Physical / Chemical Characteristics

BOILING POINT:	>200 °C
VAPOR PRESSURE:	<1 MMGH
VAPOR DENSITY:	>1 AIR=1
EVAPORATION RATE:	N/A
SOLUBILITY IN WATER:	NEGLIG.
SPECIFIC GRAVITY:	1.16-1.18 Water = 1
PERCENT VOLATILE:	NEGLIG.
VOLATILE ORGANIC COMPOUNDS:	N/A
VOC LESS H2O & EXEMPT SOLVENTS:	N/A
PH:	N/A
VISCOSITY:	>120 Poises
MELTING POINT:	N/A
APPEARANCE AND ODOR:	Very light, yellow liquid

SECTION IV - Fire & Explosion Hazard Data

FLASH POINT: 200° F CC

FLAMMABLE LIMITS – LEL: N/A

FLAMMABLE LIMITS – UEL: N/A

AUTOIGNITION TEMPERATURE: N/D

EXTINGUISHING MEDIA: Water spray, carbon dioxide, dry chemical, foam.

SPECIAL FIRE FIGHTING PROCEDURES: Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs; face mask, and protective covering for exposed areas of the head.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Under fire conditions, this material can polymerize and decompose which can cause pressure build-up in closed containers. Explosive rupture is possible.

NFPA HAZARD CODES: HEALTH: 2

FIRE: 1

REACTIVITY: 0

UNUSUAL REACTION HAZARD: N/D

OSHA FIRE HAZARD CLASS: Class IIIB combustible liquid

SECTION V - Reactivity Data

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS: Carbon monoxide and carbon dioxide, aldehydes.

INCOMPATIBILITY: Materials/conditions to avoid: Strong acids, strong bases, amines

SECTION VI - Environmental Information

SPILL RESPONSE: Observe precautions from other sections. Ventilate area. Contain spill. Cover with absorbent material. Collect spilled material. Clean up residue. Place in an approved metal container. Seal the container.

RECOMMENDED DISPOSAL: Cure product according to product instructions. Incinerate uncured waste in an industrial or commercial incinerator. Dispose of completely cured (or polymerized) material in a sanitary landfill.

ENVIRONMENTAL DATA: An epoxy resin produced by the condensation reaction of epichlorohydrin and bisphenol-A. These raw materials are consumed in the process. Residual levels of epichlorohydrin are typically 2 to 3 PPM.

Keep out of surface waters, sewers and waterways entering or leading to surface waters. Notify authorities if an exposure to the general public or environment occurs, or is likely to occur. The

reportable quantity for a leak of this product is 50,000 lbs. which is based on the presence of epichlorohydrin an approximate of 2 to 3 PPM.

REGULATORY INFORMATION: Since regulations vary, consult applicable regulations or authorities before disposal. U.S. EPA hazardous waste number = None (not U.S. EPA hazardous).

EPCRA HAZARD CLASS: FIRE HAZARD: No PRESSURE: No
REACTIVITY: Yes
ACUTE: Yes CHRONIC: Yes

SECTION VII - Suggested First Aid

INGESTION: Drink 2 glasses of water and get medical attention. Never give anything by mouth to an unconscious person.

SKIN: Immediately wash skin with soap and large amounts of water. Remove contaminated clothing. If signs/symptoms occur, call a physician. Wash contaminated clothing before reuse and dispose of contaminated shoes.

INHALATION: Move subject to fresh air. Aid in breathing, if necessary. If breathing is difficult, get immediate medical attention.

EYES: Immediately flush eyes with large amounts of water. Get immediate medical attention.

SECTION VIII - Precautions For Safe Handling and Use

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

EYE PROTECTION: Avoid contact with eyes. Wear unvented goggles during operations in which exposure is likely.

SKIN PROTECTION: Avoid skin contact. Wear appropriate gloves when handling this material. A pair of gloves made from the following material(s) are recommended. Neoprene, Nitrile Rubber.

RECOMMENDED VENTILATION: Provide sufficient ventilation to maintain emissions below recommended exposure limits. If exhaust ventilation is not adequate, use appropriate respiratory protection.

RESPIRATORY PROTECTION: Avoid breathing of vapors. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half-mask organic vapor respirator.

PREVENTION OF ACCIDENTAL INGESTION: Wash hands after handling and before eating.

RECOMMENDED STORAGE: Store away from acids. Store away from heat. Keep container dry.

FIRE AND EXPLOSION AVOIDANCE: Not applicable.

EXPOSURE LIMITS:

INGREDIENT	VALUE	UNIT	TYPE	AUTH
4,4' Isopropylidenediphenol	None		None	None
Epichlorohydrin Polymer	None		None	None

Phenol, 4, 4 (1-Methylethlidene) Bis-Polymer with (Chloromethyl) Oxirane (CAS# 25068-38-6)

SKIN NOTATION: Listed substances indicated with “y” under skin refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

SOURCE OF EXPOSURE LIMIT DATA:

- ACGIH / OSHA

SECTION IX - Health Hazard Data

EYE CONTACT: Mild eye irritation can include redness, swelling, pain, and tearing.

REPEATED EXPOSURE MAY CAUSE: Severe eye irritation which can include redness, swelling, pain, tearing, cloudy appearance of the cornea, impaired vision, and possible permanently impaired vision.

SKIN CONTACT: Allergic skin reaction can include redness, swelling, blistering, and itching. A moderate skin irritation can include redness, swelling, itching, and dryness.

INHALATION: Central nervous system depression can include headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

IRRITATION: (Upper Respiratory) Can include soreness of the nose and throat, coughing and sneezing.

IF SWALLOWED: Ingestion is not a likely route of exposure to this product.

IRRITATION OF GASTROINTESTINAL TISSUES: Can include pain, vomiting, abdominal tenderness, nausea, blood in vomitus, and blood in feces.

CENTRAL NERVOUS SYSTEM DEPRESSION: Can include headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue, blurred vision, slurred speech, giddiness, tremors and convulsions.

SECTION X - Regulatory Information

SARA TITLE 3 – Toxic Chemicals List: This product does not contain a toxic chemical for routine annual ‘Toxic Chemical Release Reporting’ under Sec. 313 (40 CFR 372)

CERLA Information (40 CFR 302.4): Not listed.

Waste Classification: Not a hazardous waste under RCRA (40 CFR 261)

Toxic Substances Control Act (TSCA):

All ingredients of this product are listed on the TSCA Inventory. This product contains the following chemical(s) that require export notification under Section 12, (b) of the Toxic Substance Control Act: Bisphenol A Diglycidyl Ether.

TSCA Export Notification:

This product contains chemical(s) which is (are) regulated by TSCA 12 (b) regulation and it is required that proper export notification shall be sent to EPA prior to shipping out of the United States of America. Bisphenol A Diglycidyl Ether (CAS # 001675-54-3)

Canadian Inventory Status:

All components included on the Domestic Substances List (DSL).

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

STATE CODE

*Epichlorohydrin (CAS #106-89-8)	2PPM MA.CA65, PA
Phenol, 4, 4' – (1-Methylethlidene) BIS-, Polymer with (Chloromethyl) Oxirane (CAS #25068-38-6)	NJ, PA

*This product contains a chemical or chemicals known to the State of California to cause cancer and/or reproductive toxicity.

CA = California Haz. Subst.: CA65 – California Safe Drinking Water and Toxic Enforcement Act.

List: FL = Florida Subst. List: IL = Illinois Tox. Subst. List: MA = Massachusetts Subst.
List: ME = Main 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: DSC Canadian Inventory

Caution: Misuse of empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place.

The information on this data sheet represents our current data and best opinion as to the proper use and handling of this product under normal conditions. Any use of the product which is not in conformance with this data sheet or which involves using the product in combination with any other product or any other process is the responsibility of the user.

The information contained herein is based on data believed by Coastal Enterprises Company to be accurate, but we do not assume any liability for the accuracy of this information. We neither suggest nor guarantee that any hazards mentioned are the only ones that exist. Anyone intending to rely on any recommendation or to use any equipment, technique or material mentioned should also satisfy himself that he can meet all applicable safety and health standards. Determination of the suitability of any information or product for the use contemplated by any user, the manner of that use, and whether there is any infringement of patents, is the sole responsibility of the user.

MATERIAL SAFETY DATA SHEET

IDENTITY: PB Resin Modified Epoxy Hardener – Part B **Date of Preparation:** 2/1/09

SECTION I - Material and Manufacturer Identification

Manufacturer's Name & Address

Coastal Enterprises Company
P.O. Box 4875
Orange, CA 92863-4875

For Information:
(800) 845-0745

Emergency Telephone Numbers:

Transportation Emergencies: Call CHEMTREC
(800) 424-9300 (202) 483-7616 (Collect) from
Alaska & Hawaii

Health Emergencies: Call LOS ANGELES
POISON INFORMATION CENTER (24 hrs.)
(800) 356-3129

Product Name: PB Resin Modified Epoxy Hardener – Part B

DOT Proper Shipping Name: Aliphatic Amine

DOT Hazard Classification: Corrosive Liquid, N.O.S. UN/NA Number: 1760

DOT Labels: Corrosive, N.O. S.

SECTION II - Composition / Information On Ingredients

PHENOL, 4-NONYL-, BRANCHED	C.A.S. NO. 84852-15-3	55 - 60%
N-AMINOETHYLPIPERAZINE	C.A.S. NO. 140-31-8	4 - 7%
POLYOXYALKYLENEAMINE	C.A.S. NO. 9046100	35 - 40%

SECTION III - Physical / Chemical Characteristics

BOILING POINT:	>390 ° F
VAPOR PRESSURE:	2 MMHG
VAPOR DENSITY:	>1 AIR=1
EVAPORATION RATE:	<1 BUDAC=1
SOLUBILITY IN WATER:	SLIGHT
SPECIFIC GRAVITY:	.95-.99 Water = 1
PERCENT VOLATILE:	NEGLIG.
VOLATILE ORGANIC COMPOUNDS:	N/A
VOC LESS H2O & EXEMPT SOLVENTS:	N/A
PH:	N/A
VISCOSITY:	<600 CPS
MELTING POINT:	N/A
APPEARANCE AND ODOR:	Amber, liquid, ammonia odor

SECTION IV - Fire & Explosion Hazard Data

FLASH POINT: >200° F

FLAMMABLE LIMITS – LEL: N/D

FLAMMABLE LIMITS – UEL: N/D

AUTOIGNITION TEMPERATURE: N/D

EXTINGUISHING MEDIA: Water spray, carbon dioxide, dry chemical, foam, alcohol-type foam.

SPECIAL FIRE FIGHTING PROCEDURES: Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs; face mask, and protective covering for exposed areas of the head.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Combustible: Combustion also may occur in the presence of other fuels. Heating can release vapors which can be ignited. Hazardous gases/vapors produced in fire are carbon monoxide, oxides of nitrogen and highly toxic cyanide fumes.

NFPA HAZARD CODES: HEALTH: 3 FIRE: 2 REACTIVITY: 0

UNUSUAL REACTION HAZARD: Corrosive

OSHA FIRE HAZARD CLASS: Class IIIB combustible liquid

SECTION V - Reactivity Data

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS THERMAL DECOMPOSITION/COMBUSTION PRODUCTS: Carbon monoxide, carbon dioxide, oxides of nitrogen.

INCOMPATIBILITY: Materials/conditions to avoid: Strong oxidizing agent, reducing agents, heat.

SECTION VI - Environmental Information

SPILL RESPONSE: Observe precautions from other sections. Ventilate area. Contain spill. Cover with absorbent material. Collect spilled material. Clean up residue. Place in an approved metal container. Seal the container.

RECOMMENDED DISPOSAL: Cure product according to product instructions. Incinerate uncured waste in an industrial or commercial incinerator. Dispose of completely cured (or polymerized) material in a sanitary landfill.

This product may be an RCRA hazardous waste upon disposal due to the corrosive characteristic.

REGULATORY INFORMATION: Since regulations vary, consult applicable regulations or authorities before disposal.

Treatment, storage, transportation and disposal must be in accordance with applicable federal, state and local regulations. Recover non-usable free liquid and dispose of it in an approved and permitted incinerator or biological treatment system. Remove non-usable solid material and/or contaminated soil for disposal in an approved and permitted landfill. Do not flush this to surface water or sanitary sewer system.

EPCRA HAZARD CLASS: FIRE HAZARD: No PRESSURE: No REACTIVITY:
No ACUTE: Yes CHRONIC: Yes

SECTION VII - Suggested First Aid

INGESTION: Do not induce vomiting. Immediately give 2 glasses of water or activated charcoal slurry. Call a physician immediately. Never give anything by mouth to an unconscious person.

Note: To prepare activated charcoal slurry, suspend 50 grams activated charcoal in 400 ml. water and mix thoroughly. Give 5 ml./kg of body weight, or 350 ml. for an average adult.

Note to physicians: After ingestion, the patient may improve after the initial crisis but perforation of the gastrointestinal tract may occur 2-4 days later with severe abdominal pain, rigidity and tenderness of the abdomen and shock. Weeks to months later, stricture of the esophagus may occur.

SKIN: Immediately wash skin with soap and large amounts of water. Remove contaminated clothing. If signs/symptoms occur, call a physician. Wash contaminated clothing before reuse and dispose of contaminated shoes.

INHALATION: Move subject to fresh air. Aid in breathing, if necessary. If breathing is difficult, get immediate medical attention.

EYES: Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

PROTECTION: Avoid eye contact. The following should be worn alone or in combination, as appropriate, to prevent eye contact: Wear unvented goggles during operations in which exposure is likely. Wear full-face shield.

SECTION VIII - Precautions For Safe Handling and Use

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

EYE PROTECTION: Avoid contact with eyes. Wear unvented goggles during operations in which exposure is likely.

SKIN PROTECTION: Avoid skin contact. Wear appropriate gloves when handling this material. A pair of gloves made from the following material(s) are recommended. Neoprene, Nitrile Rubber. Use one or more of the following personal protection items as necessary to prevent skin contact: Apron, coveralls.

RECOMMENDED VENTILATION: Provide sufficient ventilation to maintain emissions below recommended exposure limits. If exhaust ventilation is not adequate, use appropriate respiratory protection.

RESPIRATORY PROTECTION: Avoid breathing of vapors. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half-mask organic vapor respirator.

PREVENTION OF ACCIDENTAL INGESTION: Wash hands after handling and before eating.

RECOMMENDED STORAGE: Store away from acids. Store away from heat. Keep container dry.

FIRE AND EXPLOSION AVOIDANCE: Not applicable.

EXPOSURE LIMITS:

INGREDIENT	VALUE	UNIT	TYPE	AUTH	SKIN*
Phenol, 4-Nonyl-, branched	None	None	None		None
N-Aminoethylpiperazine	None	None	None		None

***SKIN NOTATION:** Listed substances indicated with “y” under skin refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

SECTION IX - Health Hazard Data

EYE CONTACT: Severe eye irritation: Signs/symptoms can include redness, swelling, pain, tearing, cloudy appearance of the cornea, impaired vision, and possibly permanently impaired vision.

SKIN CONTACT: Allergic skin reaction: Signs/symptoms can include redness, swelling, blistering, and itching.

Severe skin irritation: Signs/symptoms can include redness, swelling, itching, and dryness, cracking, blistering and pain. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion.

INHALATION: Nervous system effects: Signs/symptoms can include emotional changes, lack of coordination, tremors and sensory loss.

IRRITATION: (Upper Respiratory) Signs/symptoms can include soreness of the nose and throat, coughing and sneezing.

IF SWALLOWED: Ingestion is not a likely route of exposure to this product.

IRRITATION OF GASTROINTESTINAL TISSUES: Signs/symptoms can include pain, vomiting, abdominal tenderness, nausea, burns of mouth, difficulty swallowing, blood in vomitus, and blood in feces and ulcerations.

KIDNEY EFFECTS: Signs/symptoms can include reduced urine volume, blood in urine and back pain.

LIVER EFFECTS: Signs/symptoms can include yellow skin (jaundice) and tenderness of upper abdomen.

NERVOUS SYSTEM EFFECTS: Signs/symptoms can include emotional changes, lack of coordination, tremors and sensory loss.

REPRODUCTIVE/DEVELOPMENTAL TOXINS: N-Aminoethylpiperazine (140-3108) is a potential reproductive hazard causing male reproductive effects by the oral route of exposure in laboratory animal studies.

SECTION X - Regulatory Information

SARA TITLE 3 – Toxic Chemicals List: This product does not contain a toxic chemical for routine annual ‘Toxic Chemical Release Reporting’ under Sec. 313 (40 CFR 372).

CERLA Information (40 CFR 302.4): If spilled and not recovered, or if recovered as a waste for treatment or disposal, reportable quantity is 200 pounds (release of an unlisted hazardous waste characteristic of corrosivity).

Waste Classification: May be hazardous waste under RCRA (40 CFR 261) upon disposal due to the corrosivity character.

Toxic Substances Control Act (TSCA):

All ingredients of this product are listed on the TSCA Inventory. This product contains the following chemical(s) that require export notification under Section 12 (b) of the Toxic Substance Control Act: 4-Nonyl Phenol.

Canadian Inventory Status:

All components included on the Domestic Substances List (DSL).

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

STATE CODE

N-Aminoethylpiperazine (CAS # 140-3108) CA, CT, FL, LA, MA, NJ, PA

CA = California Haz. Subst.: CA65 – California Safe Drinking Water and Toxic Enforcement Act.

List: FL = Florida Subst. List: IL = Illinois Tox. Subst. List: MA = Massachusetts Subst.
List: ME = Main 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: CSC Canadian Inventory

Caution: Misuse of empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place.

The information on this data sheet represents our current data and best opinion as to the proper use and handling of this product under normal conditions. Any use of the product which is not in conformance with this data sheet or which involves using the product in combination with any other product or any other process is the responsibility of the user.

The information contained herein is based on data believed by Coastal Enterprises Company to be accurate, but we do not assume any liability for the accuracy of this information. We neither suggest nor guarantee that any hazards mentioned are the only ones that exist. Anyone intending to rely on any recommendation or to use any equipment, technique or material mentioned should also satisfy himself that he can meet all applicable safety and health standards. Determination of the suitability of any information or product for the use contemplated by any user, the manner of that use, and whether there is any infringement of patents, is the sole responsibility of the user.