

### SECTION 1. PRODUCT AND COMPANY INFORMATION

**MANUFACTURER:** PACE Technologies  
3601 E. 34<sup>th</sup> St.  
Tucson, AZ 85713

**INFORMATION PHONE:** 520-882-6598

**EMERGENCY PHONE:** CHEMTREC 800-424-9300 (US) Day or night  
International call collect CHEMTREC 202-483-7616

**TRADE NAME:** EPOXY RESIN

**CHEMICAL FAMILY:** MODIFIED BISPHENOL A - EPOXY RESIN

**HMIS RATING:** HEALTH:2 FLAMMABILITY: 2 PHYSICAL HAZARDS: 0

**HAZARD RATING:**

LEAST: 0 SLIGHT: 1 MODERATE: 2 HIGH: 3 EXTREME: 4

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### SECTION 2. HAZARD IDENTIFICATION

**FORM:** Liquid

**OSHA/HCS STATUS:** This material is considered hazardous by the OSHA Hazard Communication Standard (29CFR 1910.1200)

**EMERGENCY OVERVIEW:** WARNING!  
COMBUSTIBLE LIQUID AND VAPOR, MAY FORM EXPLOSIVE MIXTURES WITH AIR. TOXIC IF INHALED. HARMFUL IN CONTACT WITH SKIN OR IF SWALLOWED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION.

#### Potential Acute Health Effects:

**INHALATION:** Irritating to respiratory system. Toxic if inhaled.

**INGESTION:** Harmful if swallowed.

**SKIN:** Harmful in contact with skin. Severely irritating to the skin. May cause sensitization by skin contact.

**EYES:** Severely irritating to eyes. Risk of serious damage to eyes.

**Potential Chronic Health Effects:**

**CHRONIC EFFECTS:** Contains material that may cause target organ damage, based on animal data.

**CARCINOGENICITY:** No known significant effects or critical hazards.

**MUTAGENICITY:** Contains material which may cause heritable genetic effects.

**TERATOGENICITY:** Contains material which may cause birth defects, based on animal data.

**DEVELOPMENTAL EFFECTS:** No known significant effects of critical hazards.

**FERTILITY EFFECTS:** No known significant effects of critical hazards.

**TARGET ORGANS:** Contains material which causes damage to the following organs: blood, upper respiratory tract, skin, eyes, central nervous system (CNS), Review Section 2 and 11 for any additional assessments.

**Over-Exposure Signs/ Symptoms:**

**INHALATION:** Adverse symptoms may include the following: respiratory tract irritation, coughing.

**INGESTION:** No specific data.

**SKIN:** Adverse symptoms may include the following: irritation, redness.

**EYES:** Adverse symptoms may include the following: pain or irritation, watering, redness.

**MEDICAL CONDITIONS AGGRAVATED BY OVER-EXPOSURE:** Pre-existing skin disorders and disorders involving any other target organs mentioned in this MSDS are being at risk may be aggravated by over-exposure to this product.

**See section 11 for more detailed information on health effects and symptoms.**

**SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS**

<u>COMPONENT(S)</u>	<u>CAS NO.</u>	<u>%</u>
4,4'-isopropylidendiphenol-Epichlorohydrin Copolymer	25068-38-6	70-100
Oxirane, 2-(butoxymethyl)-	2426-08-6	10-30

**SECTION 4. FIRST-AID PROCEDURES**

- EYE CONTACT:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention. Chemical burns must be treated promptly by a physician.
- SKIN CONTACT:** Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- INHALATION:** Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately..
- INGESTION :** Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- PROTECTION OF FIRST AID PERSONNEL:** No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

**NOTES TO PHYSICIAN:** No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See section 11 for more detailed information on health effects and symptoms.

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## SECTION 5. FIRE-FIGHTING MEASURES

**FLAMMABILITY OF THE PRODUCT:** Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

**EXTINGUISHING MEDIA:**  
**Suitable:** Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Not Suitable:** Do not use water jet.

**SPECIAL EXPOSURE HAZARDS:** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**HARDOUS COMBUSTION PRODUCTS:** Decomposition products may include the following materials: carbon oxides.

**SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

**PERSONAL PRECAUTIONS:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

**ENVIRONMENTAL PRECAUTIONS:**

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**LARGE SPILLS:**

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulation (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

**SMALL SPILLS:**

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

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## SECTION 7. HANDLING AND STORAGE

**HANDLING:** Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring materials. Follow US NFPA 30 "Flammable & Combustible Liquids Code," or other national, state and local codes on safe handling of flammable liquids, Train workers in the recognition and prevention of hazards associated with the storage, handling and transfer of flammable liquids in the plant. Empty containers retain product residue and can be hazardous. Do not reuse container.

**STORAGE:** Store in an area designated for storage of flammable liquids (See NFPA 30 and OSHA 29 CFR 1910.106). Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and

food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Ingredient Name	Occupational Exposure Limits:
Oxirane, 2-(butoxymethyl)-	ACGIH TLV 8-hr TWA: 3 ppm OSHA PEL 8-hr TWA: 270 mg/m <sup>3</sup> 50 ppm

Consult local authorities for acceptable exposure limits.

#### RECOMMENDED MONITORING PROCEDURES:

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

#### ENGINEERING MEASURES:

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

#### HYGIENE MEASURES:

Wash hands, forearms and face thoroughly after handling chemical product, before eating, smiling and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### RESPIRATORY:

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

#### HANDS:

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**EYES:** Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

**SKIN:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**ENVIRONMENTAL EXPOSURE CONTROLS:** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>SPECIFIC GRAVITY (H<sub>2</sub>O=1):</b> 1.13	<b>COLOR:</b> YELLOW
<b>VAPOR PRESSURE (MM HG):</b> 400 Pa @25 °C (77° F) (Solvent)	<b>FLASH POINT:</b> 73°C (177 °F) Setaflash Closed Cup ASTA+M D 3828
<b>SOLUBILITY IN WATER:</b> NEGLIGIBLE	<b>VAPOR DENSITY (AIR=1):</b> 4.5

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### SECTION 10. STABILITY AND REACTIVITY

**STABILITY:** This product is stable.

**HAZARDOUS POLYMERIZATION:** Under normal conditions of storage and use, hazardous polymerization will not occur.

**CONDITIONS TO AVOID:** Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas. Avoid exposure – obtain special instructions before use.

**MATERIALS TO AVOID:** Reactive or incompatible with the following materials: strong oxidizing agents, strong acids, strong, alkalis, aliphatic amines

**OTHER HAZARDS:**

Reacts with considerable heat release with some curing agents. Heating this substance above 300°F in the presence of air may cause slow oxidative decomposition; above 500°F polymerization may occur. Some combinations of resins and curing agents can 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.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Decomposition products may include the following materials: carbon monoxide, aldehydes, acids.

### SECTION 11. TOXICOLOGY INFORMATION

**ACUTE TOXICITY:**

Ingredient Name:	LD50	Animal	Concentration
4,4'-isopropylidendiphenyl-Epichlorohydrin Copolymer	Oral	Rat	30,000 mg/kg
	Oral	Mouse	20,000 mg/kg
	Oral	Rabbit	19.8 mg/kg
	Dermal	Rat	>1,200 mg/kg
	Dermal	Mouse	>1270 mg/kg
Oxirane, 2-(butoxymethyl)-	Oral	Rat	1,660 mg/kg
	Oral	Mouse	1,530 mg/kg
	Inhalation	Rat	1030 ppm/ 8 h
	Dermal	Rat	>2150 mg/kg

**OTHER TOXICOLOGICAL INFORMATION:**

Ingredient Name:		
4,4'-isopropylidendiphenyl-Epichlorohydrin Copolymer	ACGIH	Not classified
	IARC	Not classified
	NTP	Not listed
	OSHA	Not regulated
Oxirane, 2-(butoxymethyl)-	ACGIH	Not classified
	IARC	Not classified
	NTP	Not listed
	OSHA	Not regulated

### SECTION 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL EFFECTS:** No known significant effects or critical hazards.

**OTHER ADVERSE EFFECTS:** No known significant effects or critical hazards.

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### SECTION 13. DISPOSAL CONSIDERATIONS

**WATSE DISPOSAL:** The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways. Drains and sewers.

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### SECTION 14. TRANSPORT INFORMATION

Not regulated by D.O.T. if in a container of 119 gallon capacity or less.

**CFR:** Non-regulated

**TDG:** Non-regulated

**IMO/IMDG:** Non-regulated

**IATA (Cargo):** Non-regulated

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### SECTION 15. REGULATORY INFORMATION

#### US REGULATIONS:

**HCS CLASSIFICATION:** Combustible liquid, Toxic material, Irritating material, Sensitizing material. Target organ effects.

**U.S. FEDERAL REGULATIONS:** SARA 311/312 Classification: Immediate (acute) health hazard, Delayed (chronic) health hazard, Fire hazard.

SARA 313 – Supplier Notification – This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C- Supplier Notification Requirement of 40 CFR Part 372. – None required.

SARA 302 Extremely Hazardous Substances: None required

**STATE REGULATIONS:**

Massachusetts RTK Substances: The following components are listed: Oxirane, 2-(butoxymethyl)-

New Jersey RTK Hazardous Substances: The following components are listed: Oxirane, 2-(butoxymethyl)-

Pennsylvania RTK Hazardous Substances: The following components are listed: Oxirane, 2-(butoxymethyl)-

California Prop. 65: **WARNING:** This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm. Oxirane, 2-(butoxymethyl)- 122-60-1, Epichlorohydrin – 106-89-8.

### CANADA REGULATIONS:

**WHMIS (Canada):**

Class B-3 Combustible liquid with a flash point between 37.8 °C (100° F) and 93.3° C (200° F).

Class D-1B: Material causing immediate and serious toxic effects (Toxic).

Class D-2A: Material causing other toxic effects (Very toxic).

Class D-2B: Material causing other toxic effects (Toxic)

**CANADIAN LISTS:** Canadian NPRI: None required.

### INTERNATIONAL REGULATIONS:

**CHEMICAL INVENTORIES:**

Europe inventory: All components are listed or exempted.

Australia inventory (AICS): All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Japan inventory (ENSC): All components are listed or exempted.

Korea inventor (KECI): All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC): Not determined

Philippine inventory (PICCS): All components are listed or exempted.

Canada inventory All components are listed or exempted.

United States inventory (TSCA 8b): All components are listed or exempted.

### SECTION 16. OTHER INFORMATION

**PACE Technologies, Inc. provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. PACE TECHNOLOGIES, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, PACE TECHNOLOGIES, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.**

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