

Material Safety Data Sheet

Revision Date: 12/20/98

NA = Not Applicable NE = Not Established

Section 1. General Information

Product name: **IPANOL E-FLEX – EPOXY RESIN – Component A**NFPA Hazard Codes: Health: 2
Fire: 1
Reactivity: 0
Unusual Reaction Hazard: NE

DOT Hazard Classification: NA

UN/NA Number: NA

DOT Labels: NA

Manufacturer: **IPA Systems, Inc.**
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E-mail: info@ipasystems.com
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Emergency Phone Number - Chemtrec: 800-424-9300

Section 2. Hazardous Ingredients

<u>Name:</u>	<u>C.A.S. No.</u>	<u>Percent</u>
4,4' – isopropylidenediphenol-epichlorohydrin polymer	25068-38-6	85 – 95
C12 & C14 alkyl glycidyl ethers	68609-97-2	8.0 – 15

Section 3. Physical Data

Boiling Point (F): > 200°C	Specific Gravity (H ₂ O = 1): 1.12 – 1.14
Vapor Pressure (mm Hg.): < 1	Percent Volatile by Volume: Negligible
Vapor Density (Air = 1): > 1	Evaporation Rate: NA
Solubility in Water: Negligible	pH: NA
Volatile Organic Compounds: NA	VOC Less H ₂ O & Exempt Solvents: NA
Viscosity: < 26 Poises	Melting Point: NA
Appearance and Odor: Very light yellow liquid	

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Section 4. Fire and Explosion Hazard Data

Flash Point: >200°F CC

Flammable Limits: LEL = NA UEL = NA

Autoignition Temperature: NE

Extinguishing Media: Water Spray, Carbon Dioxide, Dry Chemical, Foam

Special Fire Fighting Procedures: Firefighters should 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: NE

OSHA Fire Hazard Class: Class IIIB Combustible Liquid

Section 5. Health Hazard Data

Emergency and First Aid Procedures:

Eye Contact: Immediately flush eyes with large amounts of water. Get medical attention immediately.

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

Inhalation: Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get medical attention immediately.

If swallowed: Drink two glasses of water. Call a physician.

Symptoms:

Eye Contact: Mild eye irritation: Signs/symptoms can include redness, swelling, pain and tearing.

Repeated exposure may cause severe eye irritation. Signs/symptoms can include redness, swelling, pain, tearing, cloudy appearance of the cornea, impaired vision and possible permanently impaired vision.

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

Moderate skin irritation: Signs/symptoms can include redness, swelling, itching and dryness.

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

Irritation (upper respiratory): Signs/symptoms can include soreness of the nose and throat, coughing and sneezing.

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Section 5. Health Hazard Data

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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, blood in vomitus and blood in feces.

Central nervous system depression: Signs/symptoms can include headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue, blurred vision, slurred speech, giddiness, tremors and convulsions.

Exposure Limits:

<u>Ingredient</u>	<u>Value</u>	<u>Unit</u>	<u>Type</u>	<u>Auth</u>	<u>Skin*</u>
4,4' – isopropylidenediphenol- epichlorohydrin polymer	None	None	None	None	
Phenol, 4,4 – (1-methylethlidene) bis-polymer with (chloromethyl) oxirane (C.A.S. # 25068-38-6)	None	None	None	None	
C12 & C14 alkyl glycidyl ethers	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.

Source of exposure limit data:

ACGIH: American Conference of Governmental Industrial Hygienists

OSHA: Occupational Safety and Health Administration

None: None established

Section 6. Reactivity Data

Stability: Stable

Incompatibility (Materials/Conditions to Avoid Contact): Strong acids, strong bases, amines.

Hazardous Polymerization: Will not occur.

Hazardous Decomposition or By-Products: Carbon monoxide, carbon dioxide, aldehydes.

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Section 7. Procedures for Safe Handling and Use

Spill Response: Observe precautions from other sections of this MSDS. Ventilate area. Contain spill. Cover with absorbent material. Collect spilled material. Clean up residue. Place in an approved metal container. Seal the container. Keep out of surface waters, sewers and waterways entering or leading to surface waters.

Waste Disposal Method: 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 at approximately 2 – 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

CAUTION: Misuse of empty containers can be hazardous. 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 of this data sheet represents our current 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.

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Section 8. Control Measures

Eye Protection: Avoid eye contact. Wear unvented goggles during operations in which exposure is likely.

Skin Protection: Avoid skin contact. Wear appropriate gloves when handling this material. Gloves made of neoprene or nitrile rubber are 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 NIOSH approved half-mask respirator for organic vapors based on airborne concentration of contaminants and in accordance with OSHA regulations.

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: NA

Section 9. Special Precautions

Hygienic Practices in Handling and Storage: Wash exposed skin areas immediately after contact. Severe burning may begin minutes after skin contact. Flush with plenty of water. Seek medical attention immediately. Keep from freezing.

Precautions for Repair and Maintenance of Contaminated Equipment: Wash mixing equipment with water. Normal industrial and construction practices for maintenance of concrete mixing and placing equipment may be followed.

Other Precautions: Addition of IPANOL E-FLEX to concrete creates a mixture that should be handled with standard practices and safety methods. Once mixed in concrete in accordance with manufacturer's instructions, no additional precautions should be required.

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Section 10. State Regulatory Information

RCRA Status:

Not a hazardous waste under RCRA (40 CFR 261).

CERCLA Status:

Not listed.

SARA / Title III – Toxic Chemicals List:

This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).

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 Substances Control Act:

Bisphenol A diglycidyl ether

TSCA Export Notification:

This product contains chemicals which 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)	2 ppm	MA, CA65, PA
Phenol, 4,4' - (1-methylethlidene) bis-, polymer with (chloromethyl) oxirane (CAS# 25068-38-6)		NJ, PA
Oxirane, mono (C12 & C14 alkyloxy) methyl (CAS# 2561-8-9)		NJ
Oxirane, (dodecyloxy) methyl (CAS# 2561-8-9)		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 Toxics Enforcement Act.

List: FL = Florida Subst. List: IL = Illinois Tox. 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: DSC Canadian Inventory