

**PHILLYSEAL FLEXIBLE JOINT SEALANT HARDENER**

Last revised: 09/28/00

Printed: 09/19/01

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Chemical family Polyamine adduct

General information: The following health hazard data pertain to the hardener only. When fully cured, the mixed product is non-hazardous.

**MANUFACTURER**

ITW Philadelphia Resins  
130 Commerce Dr.  
Montgomeryville, PA 18936

**EMERGENCY INFORMATION**

Emergency telephone number  
(CHEMTREC) (800) 424-9300  
Other calls: (215) 855-8450

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

| HAZARDOUS CONSTITUENTS |       |          | Exposure limits |                |                             |               |
|------------------------|-------|----------|-----------------|----------------|-----------------------------|---------------|
| Constituent            | Abbr. | CAS No.  | Weight percent  | ACGIH TLV      | OSHA PEL                    | Other Limits  |
| Aminoethylpiperazine   | AEP   | 140318   | 20-30           | n/e            | n/e                         | n/e           |
| Nonylphenol            |       | 25154523 | 10-20           | n/e            | n/e                         | n/e           |
| Dibutyl phthalate      | DBP   | 84742    | 1-10            | 5<br>mg/m<br>3 | 5<br>mg/m <sup>3</sup><br>3 | 5<br>(Canada) |

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) as established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit. "n/e" indicates that no exposure limit has been established. An asterisk (\*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

**3. HAZARDS IDENTIFICATION****Emergency Overview**

Appearance, physical form, odor: Gray/Black viscous liquid with ammonia-like, fishy odor.

**Danger! Corrosive. Severe eye, skin, respiratory tract irritant (evidenced by itching, redness, burning sensation). Potential skin sensitizer. Avoid breathing vapors. Use with adequate ventilation. Do not take internally. Wash thoroughly after handling.**

**Potential health effects:****Primary routes of exposure:**

Skin contact     Skin absorption     Eye contact     Inhalation     Ingestion

**Symptoms of acute overexposure:****Skin:**

Severe irritation or burns, necrosis and permanent injury.

**Eyes:**

Severe irritation or burns. May cause lacrimation, conjunctivitis, corneal damage and may cause permanent injury.

**Inhalation:**

High concentrations of vapor or mist can cause severe irritation of the respiratory tract, nausea, and dizziness. Coughing and chest pain may result.

**Ingestion:**

Causes severe damage to mucous membranes if swallowed. May cause malaise, headache, discomfort bleeding and vomiting of blood.

**Effects of chronic overexposure:**

Prolonged or repeated overexposure by skin contact or inhalation may cause asthma or skin sensitization, with itching, swelling and rashes upon further exposure. Adverse eye effects may include conjunctivitis or corneal damage. Nonyphenol has caused allergic sensitization in humans.

**Medical conditions which may be aggravated by exposure:**

Asthma, eczema, or skin disorders and allergies, eye disease.

**Carcinogenicity -- OSHA regulated:** No    **ACGIH:** No    **National Toxicology Program:** No  
**International Agency for Research on Cancer:** No  
**Cancer-suspect constituent(s):** None

**Other effects:**

None known.

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**4. FIRST AID MEASURES****First aid for eyes:**

Flush eye with clean water for at least 15 minutes while gently holding eyelids open, lifting upper and lower lids. Get immediate medical attention.

**First aid for skin:**

Remove contaminated clothing and shoes. Flush area with water for at least 15 minutes. Wash thoroughly with soap and warm water. Consult a physician if irritation develops.

**First aid for inhalation:**

Remove patient to fresh air. Give oxygen or artificial respiration if needed. Prevent aspiration of vomit. Turn victims head to side. Seek medical advice.

**First aid for ingestion:**

Do NOT induce vomiting. Give large amounts of water or milk if conscious. Consult a physician. Never give anything by mouth to an unconscious person.

**Note to physician:**

Highly injurious to all tissues, similar to that of ammonia or ammonia gas. Chemical pneumonitis, pulmonary edema, laryngeal edema and delayed scarring of the airway or other affected tissues may occur following exposure. Give supportive treatment similar to thermal burns.

**5. FIRE FIGHTING MEASURES****Extinguishing media:**

Water



Carbon dioxide



Dry chemical



Foam



Alcohol foam

**Flash Point (°F):** > 200**Method:** Seta Flash**Explosive limits in air -- Lower:** n/d**Upper:** n/d**Special firefighting procedures:**

Firefighters should wear self-contained breathing apparatus and protective clothing (butyl rubber). Water spray may be useful in cooling containers and dispersing vapors.

**Unusual fire and explosion hazards:**

A sudden reaction and fire may result when mixed with an oxidizing agent. Personnel in vicinity and downwind should be evacuated.

**Hazardous products of combustion:**

Carbon monoxide and carbon dioxide. Toxic and irritating smoke.

**6. ACCIDENTAL RELEASE MEASURES****Spill control:**

Prevent skin and eye contact. Ventilate area. Eliminate ignition sources.

**Containment:**

Construct a dike to prevent spreading. Collect run-off water for proper disposal.

**Cleanup:**

Using butyl rubber protective clothing and self-contained breathing apparatus, neutralize and reduce vapors with sodium bisulfate. Absorb spillage on inert material and discard in closed, nonporous containers.

**Special procedures:**

Prevent product from entering streams or drinking water supplies (notify local health authorities and other appropriate agencies if such contamination occurs).

**7. HANDLING AND STORAGE****Handling precautions:**

- Avoid skin and eye contact with this hardener.
- Keep hands away from eyes when handling material or before washing after use.
- Wash thoroughly after using, particularly before eating, smoking or using toilet facilities.
- Launder contaminated clothing before re-use; discard contaminated leather articles.
- Prolonged or repeated overexposure can cause sensitization and allergic response. Those so affected should consult a physician, and avoid further exposure to this material if exposure is confirmed.
- Do not use sodium nitrite or other nitrosating agents (nitrous acid, nitrites or nitrous oxide atmospheres) with product, cancer-causing nitrosamines could be formed.

**Storage precautions:**

- Store closed in a cool, dry place away from oxidizers, heat or flame.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Engineering controls****Ventilation:**

Local exhaust is recommended for repeated or prolonged use, especially in confined areas. General mechanical ventilation is usually sufficient for occasional use.

**Other engineering controls:**

Have emergency showers and eye wash stations in area.

**Personal protective equipment****Eye and face protection:**

Safety glasses with side shields or splash proof goggles.

**Skin Protection:**

Chemical resistant rubber gloves (neoprene or rubber) and other protective clothing as required to prevent skin contact.

**Respiratory protection:**

None needed in normal use with proper ventilation. In poorly ventilated areas, use NIOSH-approved organic vapor masks.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

|                                    |         |   |   |
|------------------------------------|---------|---|---|
| <b>Specific gravity:</b>           | 1.5     | <b>Boiling point (°F):</b>                  | > 360   |
| <b>Melting point (°F):</b>         | n/d     | <b>Vapor density (air = 1):</b>             | >1  |
| <b>Vapor pressure (mmHg):</b>      | <1mm Hg | at 77 °F                                    | <b>Evaporation rate (butyl acetate = 1):</b> <1 |
| <b>VOC (grams/liter):</b>          | 0       | <b>Solubility in water:</b>                 | Negligible                                      |
| <b>Percent volatile by volume:</b> | 0       | <b>pH (5% solution or slurry in water):</b> | Alkaline  |
| <b>Percent solids by weight:</b>   | 100     |   | 0   |

**10. STABILITY AND REACTIVITY**

This product is chemically stable.

Hazardous polymerization will not occur.

**Conditions to avoid:**

Extreme heat, open flame, sparks, ignition sources.

**Incompatible materials:**

Strong oxidizing agents (i.e. perchlorates, nitrates), acids (i.e. chromerge) and chlorinated organic compounds.

**Hazardous decomposition products:**

Acrid and toxic smoke, organic amines, carbon and nitrogen oxides, nitriles, cyanic acid, isocyanates, cyanogens, nitrosamines, amides, carbamates. Ammonia when heated.

**Conditions of hazardous polymerization:**

Heat is generated when mixed with epoxy resin. Use caution when mixing large quantities.

**11. TOXICOLOGICAL INFORMATION****Acute oral effects:**

LD50 (rat): > 2000 mg/kg (estimate)

**Acute dermal effects**

LD50 (rabbit): > 2000 mg/kg (estimate)

**Acute inhalation effects:**

LC50 (rat): Not available. in 0 hours

**Eye irritation:**

Not available.

**Subchronic effects**

Dibutyl Phthalate: Dermal Study (90 days, rabbit): LOEL = 4200 mg/kg/day (target organ effects: Kidney); NOEL = 2100 mg/kg/day. Dibutyl Phthalate: Oral Study (9 days, mouse): LOEL: 2000 mg/kg/day (target organ effects: testes).

**Chronic effects**

Not available.

**Carcinogenicity, teratogenicity, and mutagenicity:**

Nonylphenol has caused allergic sensitization in humans. Dibutyl Phthalate has been shown to cause birth defects in laboratory animal studies. The relevance of these findings to humans is unknown.

**Toxicological information on hazardous chemical constituents of this product:**

| Constituent          | Oral LD50<br>(rat) | Dermal LD50<br>(rabbit) | Inhalation LC50<br>(rat, 4 hours) |
|----------------------|--------------------|-------------------------|-----------------------------------|
| Aminoethylpiperazine | 2140 mg/kg         | 880 mg/kg               | n/d                               |
| Nonylphenol          | 1620 mg/kg         | 2140 mg/kg              | >1 mg/L                           |
| Dibutyl phthalate    | 8000 mg/kg         | >20 mL/kg               | 4250 mg/m <sup>3</sup>            |

**12. ECOLOGICAL INFORMATION****Ecotoxicity:**

Not available.

**Mobility and persistence:**

Not available.

**Environmental fate:**

Not available.

**13. DISPOSAL CONSIDERATIONS****Waste management recommendations:**

Remove to a waste disposal facility operating in compliance with state and local regulations. Incineration is the preferred method of disposal.

**14. TRANSPORT INFORMATION**

**Proper shipping name:** Corrosive liquid, basic, organic, n.o.s.

**Technical name:** N-Aminoethylpiperazine and Nonylphenol

**Hazard class:** 8

**UN number:** 3267

**Packing group:** III

**IMDG Page no.:** 8147-

**Emergency Response Guide no.:**

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**Other:** Marine Pollutant (Nonyl Phenol)

**15. REGULATORY INFORMATION****U.S. Federal Regulations****TSCA:**

All ingredients of this product are listed, or are exempt from listing, on the TSCA Inventory.

**The following RCRA code(s) applies to this material if it becomes waste:** None

**Regulatory status of hazardous chemical constituents of this product:**

| Constituent          | Extremely Hazardous* | Toxic Chemical** | CERCLA RQ (lbs) | TSCA 12B Export Notification |
|----------------------|----------------------|------------------|-----------------|------------------------------|
| Aminoethylpiperazine | No                   | No               | No              | Not required                 |
| Nonylphenol          | No                   | No               | No              | Not required                 |
| Dibutyl phthalate    | No                   | Yes              | No              | Required                     |

\*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substances list.

\*\*Substances for which the "Toxic Chemical" column is marked "Yes" are on the SARA Section 313 list of Toxic Chemicals, for which release reporting may be required. Consult the appropriate regulations for specific requirements.

**Classification of this material for SARA Section 312 hazardous materials inventory reporting:**

Immediate health hazard    Delayed health hazard

**Canadian regulations**

WHMIS hazard class(es):    E

***16. OTHER INFORMATION***

| Hazardous Materials Information System (HMIS) ratings: |              |            |
|--|--------------|------------|
| Health   | Flammability | Reactivity |
| <b>3*</b>  | <b>1</b>     | <b>0</b>   |

The information and recommendations in this document are based on the best information available to us at the time of preparation, but we make no other warranty, express or implied, as to its correctness or completeness, or as to the results of reliance on this document.

**PHILLYSEAL FLEXIBLE JOINT SEALANT RESIN**

Last revised: 09/10/01

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**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Chemical family Epoxy resin

General information: This information applies to the resin component of the two-part kit; handle freshly-mixed resin and hardener as recommended for the hardener. After curing, the product is not hazardous.

**MANUFACTURER**

ITW Philadelphia Resins  
130 Commerce Dr.  
Montgomeryville, PA 18936

**EMERGENCY INFORMATION**

Emergency telephone number  
(CHEMTREC) (800) 424-9300  
Other calls: (215) 855-8450

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

| HAZARDOUS CONSTITUENTS             |            |          | Exposure limits |           |          |              |
|------------------------------------|------------|----------|-----------------|-----------|----------|--------------|
| Constituent                        | Abbr.      | CAS No.  | Weight percent  | ACGIH TLV | OSHA PEL | Other Limits |
| Bisphenol A diglycidyl ether resin | DGEB<br>PA | 25068386 | 35-45           | n/e       | n/e      | n/e          |
| Alkyl Glycidyl Ether               |            | 68609972 | 5-15            | n/e       | n/e      | n/e          |

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) as established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit. "n/e" indicates that no exposure limit has been established. An asterisk (\*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

**3. HAZARDS IDENTIFICATION****Emergency Overview**

Appearance, physical form, odor: White viscous liquid with little odor.

**Eye and skin irritant. Potential skin sensitizer. Avoid contact with eyes. Avoid prolonged or repeated skin contact. Do not take internally. Wash thoroughly after handling.**

**Potential health effects:****Primary routes of exposure:**

Skin contact     Skin absorption     Eye contact     Inhalation     Ingestion

**Symptoms of acute overexposure:****Skin:**

Moderate irritant. Contact at elevated temperatures can cause thermal burns. May cause skin sensitization (rashes, hives).

**Eyes:**

Moderate irritant. Contact at elevated temperatures can cause thermal burns.

**Inhalation:**

The low vapor pressure of the resin makes inhalation unlikely in normal use.

**Ingestion:**

Acute oral toxicity is low. May cause gastric distress.

**Effects of chronic overexposure:**

Prolonged or repeated skin contact may cause sensitization, with itching, swelling, or rashes on later exposure.

**Medical conditions which may be aggravated by exposure:**

Preexisting eye and skin disorders. Development of preexisting skin or lung allergy symptoms may increase.

**Carcinogenicity -- OSHA regulated:** No      **ACGIH:** No      **National Toxicology Program:** No  
**International Agency for Research on Cancer:** No  
**Cancer-suspect constituent(s):** None

**Other effects:**

See section 11.

**4. FIRST AID MEASURES****First aid for eyes:**

Flush eye with clean water for at least 15 minutes while gently holding eyelids open. Get immediate medical attention.

**First aid for skin:**

Immediately remove contaminated clothing and excess contaminant. Flush skin with water. Wash thoroughly with soap and warm water. Consult a physician if irritation develops.

**First aid for inhalation:**

Remove patient to fresh air. Administer oxygen if breathing is difficult. Get medical attention if symptoms persist.

**First aid for ingestion:**

Do NOT induce vomiting. Give two glasses of water to dilute if patient is conscious. Get medical attention.

**Note to physician:**

In general, emesis induction is unnecessary in high viscosity, low volatility products, e.g., neat epoxy resins.

**5. FIRE FIGHTING MEASURES****Extinguishing media:**
 Water

 Carbon dioxide

 Dry chemical

 Foam

 Alcohol foam

**Flash Point (°F):** >400

**Method:** PMCC

**Explosive limits in air -- Lower:** n/d

**Upper:** n/d

**Special firefighting procedures:**

Material will not burn unless preheated. Do not enter confined space without full bunker gear. Firefighters should wear self-contained breathing apparatus and protective clothing. Cool fire exposed containers with water.

**Unusual fire and explosion hazards:**

Heating above 300 deg F in the presence of air may cause slow oxidative decomposition and above 500 deg F may cause polymerization.

**Hazardous products of combustion:**

When heated to decomposition it emits fumes of Cl-, carbon monoxide, other fumes and vapors varying in composition and toxicity.

## 6. ACCIDENTAL RELEASE MEASURES

### Spill control:

Avoid personal contact. Eliminate ignition sources. Ventilate area.

### Cleanup:

For large spills, pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable material and dispose of properly. Flush area with water to remove trace residue.

### Containment:

Dike, contain and absorb with clay, sand or other suitable material.

### Special procedures:

Prevent spill from entering drainage/sewer systems, waterways, and surface waters.

## 7. HANDLING AND STORAGE

### Handling precautions:

Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after using and particularly before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Launder contaminated clothing and protective gear before reuse. Discard contaminated leather articles. Handle mixed resin and hardener in accordance with the potential hazard of the curing agent used. Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against nuisance dust during sanding/grinding of cured product.

### Storage precautions:

Store in a cool, dry area away from high temperatures and flames.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Engineering controls

#### Ventilation:

Local exhaust ventilation is preferred although good general mechanical ventilation is usually adequate for most industrial applications. Local exhaust is recommended for confined areas.

#### Other engineering controls:

Have emergency shower and eye wash available.

### Personal protective equipment

#### Eye and face protection:

Safety glasses with side shields.

#### Skin Protection:

Chemical-resistant gloves and other gear as required to prevent skin contact.

#### Respiratory protection:

None required at normal handling temperatures and conditions. Use NIOSH approved organic vapor cartridges for uncured resin and dust/particle respirators during grinding/sanding operations of cured resin as exposure levels dictate.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

|                                    |                      |  |            |
|------------------------------------|----------------------|--|------------|
| <b>Specific gravity:</b>           | 1.2                  | <b>Boiling point (°F):</b>                   | >500       |
| <b>Melting point (°F):</b>         | n/d                  | <b>Vapor density (air = 1):</b>              | >1         |
| <b>Vapor pressure (mmHg):</b>      | 0.03 mm Hg at 171 °F | <b>Evaporation rate (butyl acetate = 1):</b> | <<1        |
| <b>VOC (grams/liter):</b>          | 0                    | <b>Solubility in water:</b>                  | Negligible |
| <b>Percent volatile by volume:</b> | 0                    | <b>pH (5% solution or slurry in water):</b>  | neutral    |
| <b>Percent solids by weight:</b>   | 100                  |  | 0          |

**10. STABILITY AND REACTIVITY**

This product is chemically stable.

Hazardous polymerization will not occur.

**Conditions to avoid:**

Open flame and extreme heat

**Incompatible materials:**

Strong Lewis or mineral acids, strong oxidizing agents, strong mineral and organic bases (especially primary and secondary aliphatic amines).

**Hazardous decomposition products:**

Oxides of carbon; aldehydes, acids and other organic substances may be formed during combustion or elevated temperature (>500 deg F) degradation.

**Conditions of hazardous polymerization:**

Heat is generated when resin is mixed with curing agents; Run-a-way cure reactions may char and decompose the resin, generating unidentified fumes and vapors which may be toxic.

**11. TOXICOLOGICAL INFORMATION****Acute oral effects:**

LD50 (rat): 11,400 mg/kg

Oral LD50 (mouse) = 15.6 g/kg

**Acute dermal effects**

LD50 (rabbit): >20 ml/kg

**Acute inhalation effects:**

LC50 (rat): No deaths in saturated in 8 hours

**Eye irritation:**

No data available.

**Subchronic effects**

No data available.

**Chronic effects**

2-year bioassays in mice exposed by the dermal route to EPON 828, DGEBA, or other commercial resins yielded limited evidence of weak carcinogenicity. The authors concluded that the renal tumor evidence with EPON 828 "was of no biological significance" and that the resin "is not a systemic carcinogen when applied to the dorsal skin of CF1 mice."

**Carcinogenicity, teratogenicity, and mutagenicity:**

Both the resin and the diglycidyl ether of bisphenol A (a component of this product) have proved to be inactive when tested by In Vivo mutagenicity assays. Both have shown activity by In Vitro microbial mutagenicity screening and have produced chromosomal aberrations in cultured rat liver cells.

**Toxicological information on hazardous chemical constituents of this product:**

| Constituent                        | Oral LD50<br>(rat) | Dermal LD50<br>(rabbit) | Inhalation LC50<br>(rat, 4 hours) |
|------------------------------------|--------------------|-------------------------|-----------------------------------|
| Bisphenol A diglycidyl ether resin | 11.4 g/kg          | >20 ml/kg               | no deaths                         |
| Alkyl Glycidyl Ether               | >19.2 g/kg         | > 4.5 g/kg              | n/d                               |

**12. ECOLOGICAL INFORMATION****Ecotoxicity:**

No data available.

**Mobility and persistence:**

No data available.

**Environmental fate:**

No data available.

**13. DISPOSAL CONSIDERATIONS****Waste management recommendations:**

If this resin becomes a waste, it would not be a hazardous waste by RCRA criteria (40CFR 261). Dispose of according to applicable federal, state, and local regulations.

**14. TRANSPORT INFORMATION****Proper shipping name:** Non-regulated**Technical name:****Hazard class:** N/A**UN number:****Packing group:****IMDG Page no.:****Emergency Response Guide no.:****Other:****15. REGULATORY INFORMATION****U.S. Federal Regulations****TSCA:**

All ingredients of this product are listed, or are exempt from listing, on the TSCA Inventory.

**The following RCRA code(s) applies to this material if it becomes waste:** None

**Regulatory status of hazardous chemical constituents of this product:**

| Constituent                        | Extremely<br>Hazardous* | Toxic<br>Chemical** | CERCLA<br>RQ (lbs) | TSCA 12B Export<br>Notification |
|------------------------------------|-------------------------|---------------------|--------------------|---------------------------------|
| Bisphenol A diglycidyl ether resin | No                      | No                  | No                 | Not required                    |
| Alkyl Glycidyl Ether               | No                      | No                  | No                 | Required                        |

\*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substances list.

\*\*Substances for which the "Toxic Chemical" column is marked "Yes" are on the SARA Section 313 list of

Toxic Chemicals, for which release reporting may be required. Consult the appropriate regulations for specific requirements.

**Classification of this material for SARA Section 312 hazardous materials inventory reporting:**

Immediate health hazard    Delayed health hazard

**Canadian regulations**

**WHMIS hazard class(es):**    D2B

All components of this product are on the Domestic Substances List.

**16. OTHER INFORMATION**

| <b>Hazardous Materials Information System (HMIS) ratings:</b> |                     |                   |
|---|---------------------|-------------------|
| <b>Health</b>   | <b>Flammability</b> | <b>Reactivity</b> |
| <b>2*</b>   | <b>1</b>            | <b>1</b>          |

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