

**IMPAX 3300LV-N HARDENER**

Last revised: 09/15/01

Printed: 09/27/01

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

Chemical family Modified Aliphatic Amine

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	Constituent	Abbr.	CAS No.	Weight percent	Exposure limits		
					ACGIH TLV	OSHA PEL	Other Limits
	Benzyl alcohol	BZOH	100516	1-15	n/e	n/e	10 (AIHA)
	Meta-Xylenediamine	MXDA	1477550	1-10	0.1 mg/m 3 (C)	0.1 mg/m <sup>3</sup> (C)	0.1 (NIOSH) (C)
	Nonylphenol		25154523	< 10	n/e	n/e	n/e
	2-Propoxyethanol		2807309	1-10	n/e	n/e	n/e
	Trimethylhexanediamine		3236531	1-10	n/e	n/e	n/e
	Aliphatic Amine		*	1-10	n/e	n/e	n/e
	1,2-Cyclohexanediamine		694837	1-15	n/e	n/e	n/e
	Polyoxypropylenediamine		9046100	30-50	n/e	n/e	n/e
	Alkylamines		*	1-15	n/e	n/e	n/e
	Polyethylene polyamine adduct		*	1-10	n/e	n/e	n/e
	Cycloaliphatic amine		*	1-15	n/e	n/e	n/e
	Cycloaliphatic amine		*	1-15	n/e	n/e	n/e
	Cycloaliphatic Amine		*	1-15	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: Straw liquid with faint amine odor.

**Danger! Corrosive. Severe eye, skin, respiratory tract irritant (evidenced by itching, redness, burning sensation). Potential skin and respiratory tract 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:**

Corrosive. Severe irritant. Corrosive. Contact can cause pain, burns, necrosis, and permanent injury. Contact can cause dryness, defatting, itching and/or rash. Components can be absorbed through skin and may cause nausea, headache and general discomfort.

###### **Eyes:**

Corrosive. Contact can cause pain, burns, necrosis, permanent injury, blindness. Vapor in low concentrations can cause tearing, conjunctivitis and corneal edema.

###### **Inhalation:**

Inhalation of vapors may severely damage contacted tissue and produce scarring.

###### **Ingestion:**

Irritation or burning of the mucous membranes, throat, and digestive tract may occur based on experiences of other alkaline corrosives.

##### Effects of chronic overexposure:

Repeated and/or prolonged exposure may cause allergic reaction/sensitization. Other effects include respiratory (dryness of nasal passages, sore throat, cough, tightness of chest, shortness of breath) which may be delayed, eye (conjunctivitis, corneal damage), skin (defatting, rash, irritation or corrosion).

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

Asthma. Chronic respiratory disease (e.g. bronchitis, emphysema). Eye disease. Skin disorders and allergies.

**Carcinogenicity -- OSHA regulated:** No    **ACGIH:** No    **National Toxicology Program:** No

**International Agency for Research on Cancer:** No

**Cancer-suspect constituent(s):** None

##### **Other effects:**

Corneal edema may give rise to a perception of 'blue haze' or 'fog' around lights. The effect is transient and has no known residual effect.

#### 4. FIRST AID MEASURES

**First aid for eyes:**

Rinse with clear water for 15 minutes holding eyelid open. Contact a physician.

**First aid for skin:**

Remove contaminated clothing and excess contaminate, flush with water. Wash thoroughly with soap and water.

**First aid for inhalation:**

Remove to fresh air.

**First aid for ingestion:**

Do not induce vomiting. Give large amounts of water or milk. Get immediate medical attention.

#### 5. FIRE FIGHTING MEASURES

**Extinguishing media:**

Water       Carbon dioxide       Dry chemical       Foam       Alcohol foam

**Flash Point (°F):** 230

**Method:** TOC

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

**Upper:** n/d

**Special firefighting procedures:**

Firefighters should wear self-contained breathing apparatus and protective clothing. Cool fire exposed containers with water.

**Unusual fire and explosion hazards:**

Sudden reaction and fire may result if product is mixed with an oxidizing agent.

**Hazardous products of combustion:**

Oxides of carbon, oxides of nitrogen, ammonia and unidentified organic compounds.

#### 6. ACCIDENTAL RELEASE MEASURES

**Spill control:**

Avoid personal contact. Eliminate ignition sources. Ventilate area.

**Containment:**

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

**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.

**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. Keep containers closed and store in ventilated area away from acids and oxidizers. Keep under a blanket of inert gas (i.e. nitrogen gas) to maintain stability.

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

Local exhaust is recommended for prolonged or repeated use. Effective mechanical ventilation is adequate for occasional use.

**Other engineering controls:**

Have emergency shower and eye wash stations available.

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

Safety glasses with side shields or splash proof goggles.

**Skin Protection:**

Chemical resistant rubber gloves 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>	0.99	<b>Boiling point (°F):</b>	480
<b>Melting point (°F):</b>	n/d	<b>Vapor density (air = 1):</b>	>1
<b>Vapor pressure (mmHg):</b>	0.01	<b>Evaporation rate (butyl acetate = 1):</b>	<1
	at 68 °F	<b>Solubility in water:</b>	Appreciable
<b>VOC (grams/liter):</b>	<10	<b>pH (5% solution or slurry in water):</b>	11.5
<b>Percent volatile by volume:</b>	<1		0
<b>Percent solids by weight:</b>	100		

**10. STABILITY AND REACTIVITY**

This product is chemically stable.

Hazardous polymerization will not occur.

**Conditions to avoid:**

Moisture. Exposure to light and air. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces.

**Incompatible materials:**

Mineral acids, organic acids, oxidizing agents, reactive metals. Sodium or calcium hypochlorite. Peroxides. Materials reactive with hydroxyl compounds.

**Hazardous decomposition products:**

Burning will produce acrid and toxic fumes including carbon monoxide, carbon dioxide, oxides of nitrogen, nitric acid (TLV=2ppm), aldehydes, ammonia.

**Conditions of hazardous polymerization:**

None

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

LD50 (rat): No data available.

**Acute dermal effects**

LD50 (rabbit): No data available.

**Acute inhalation effects:**

LC50 (rat): No data available. in 0 hours

**Eye irritation:**

No data available.

**Subchronic effects**

No data.

**Chronic effects**

No data.

**Carcinogenicity, teratogenicity, and mutagenicity:**

Nonylphenol has caused allergic sensitization in humans.

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

Constituent	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat, 4 hours)
Benzyl alcohol	1230 mg/kg	2000 mg/kg	> 2000 ppm
Meta-Xylenediamine	930 mg/kg	2000 mg/kg	350 ppm
Nonylphenol	1620 mg/kg	2140 mg/kg	>1 mg/L
2-Propoxyethanol	3089 mg/kg	960 mg/kg	n/d
Trimethylhexanediamine	1750 mg/kg	n/d	n/d
Aliphatic Amine	n/d	n/d	n/d
1,2-Cyclohexanediamine	1 g/kg	n/d	> 3200 mg/m <sup>3</sup>
Polyoxypropylenediamine	1.67 g/Kg	760 mg/kg (rab)	n/d
Alkylamines	n/d	n/d	n/d
Polyethylene polyamine adduct	n/d	n/d	n/d
Cycloaliphatic amine	n/d	n/d	n/d
Cycloaliphatic amine	n/d	n/d	n/d
Cycloaliphatic Amine	n/d	n/d	n/d

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

No data.

**Mobility and persistence:**

No data.

**Environmental fate:**

No data.

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

If this material 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:** Corrosive liquid, basic, organic, n.o.s.**Technical name:** MODIFIED CYCLOALIPHATIC AMINE**Hazard class:** 8**UN number:** 3267**Packing group:** III**IMDG Page no.:** 8147**Emergency Response Guide no.:** 153

-1

**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 Hazardous*	Toxic Chemical**	CERCLA RQ (lbs)	TSCA 12B Export Notification
Benzyl alcohol	No	No	No	Not required
Meta-Xylenediamine	No	No	No	Not required
Nonylphenol	No	No	No	Not required
2-Propoxyethanol	No	No	No	Not required
Trimethylhexanediamine	No	No	No	Not required
Aliphatic Amine	No	No	No	Not required
1,2-Cyclohexanediamine	No	No	No	Not required
Polyoxypropylenediamine	No	No	No	Not required
Alkylamines	No	No	No	Not required
Polyethylene polyamine adduct	No	No	No	Not required
Cycloaliphatic amine	No	No	No	Not required
Cycloaliphatic amine	No	No	No	Not required
Cycloaliphatic Amine	No	No	No	Not 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; E; D2A

***16. OTHER INFORMATION***

Hazardous Materials Information System (HMIS) ratings:		
Health	Flammability	Reactivity
3*	1	1

**Revisions for this issue:**

MSDS Section	Revisions
3	Updated health information
5	Updated fire information
7	Updated storage information
10	Updated reactivity information

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.

**IMPAX 3300LV-N RESIN**

Last revised: 06/10/01

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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
Carbonic Ester		TRADE SECRET	10-20	n/e	n/e	n/e
Bisphenol A diglycidyl ether resin	DGEB PA	25068386	80-90	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: Clear 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>	1.17	<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>	< 20	<b>Solubility in water:</b>	Negligible
<b>Percent volatile by volume:</b>	< 1	<b>pH (5% solution or slurry in water):</b>	neutral
<b>Percent solids by weight:</b>	> 99		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): Not available.

**Acute dermal effects**

LD50 (rabbit): Not available.

**Acute inhalation effects:**

LC50 (rat): Not available. in 8 hours

**Eye irritation:**

Not 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 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat, 4 hours)
Carbonic Ester	29100 uL/kg	>20 mL/kg	n/d
Bisphenol A diglycidyl ether resin	30 g/kg	>20 ml/kg	no deaths

**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:** N/A**Hazard class:** N/A**UN number:** N/A**Packing group:** N/A**IMDG Page no.:** N/A**Emergency Response Guide no.:** N/A**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 Hazardous*	Toxic Chemical**	CERCLA RQ (lbs)	TSCA 12B Export Notification
Carbonic Ester	No	No	No	Not required
Bisphenol A diglycidyl ether resin	No	No	No	Not 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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