2-TON CLEAR EPOXY RESIN

Last revised: 12/04/98
Printed: 04/29/99

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: EPOXY RESIN

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 Devcon
30 Endicott St.
Danvers, MA 01923

EMERGENCY INFORMATION

Emergency telephone number
(CHEMTREC) **(800) 424-9300**
Other calls: **(978) 777-1100**

2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS CONSTITUENTS

Constituent	Abbr.	CAS No.	Weight percent	Exposure limits: ACGIH TLV	OSHA PEL	Other Limits
Bisphenol A diglycidyl ether resin	DGEBPA	25068386	> 60	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: viscous liquid with little odor.

CAUTION! 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 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.

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.

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 cartidges for uncured resin and dust/particle respirators during grinding/sanding operations of cured resin as exposure levels dictate.

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity:	1.19	**Boiling point (°F):**	>500
Melting point (°F):	n/d	**Vapor density (air = 1):**	>1
Vapor pressure (mmHg):	0.03 mm Hg at 171 °F	**Evaporation rate (butyl acetate = 1):**	<<1
VOC (grams/liter):	0	**Solubility in water:**	Negligible
Percent volatile by volume:	0	**pH (5% solution or slurry in water):**	neutral
Percent solids by weight:	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 saturate 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, DGEBPA, 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)
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: N/A

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA:

All ingredients of this product are listed, or are exempt from listing, on the TSCA Inventory.
Export notification is required under TSCA Section 12B -- see below.

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
Bisphenol A diglycidyl ether resin	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

Hazardous Materials Information System (HMIS) ratings:

Health	Flammability	Reactivity
2*	1	1

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 warrenty, express or implied, as to its correctness or completeness, or as to the results of reliance on this document.

2-TON CLEAR EPOXY HARDENER

Last revised: 12/04/98
Printed: 04/29/99

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 Devcon
30 Endicott St.
Danvers, MA 01923

EMERGENCY INFORMATION

Emergency telephone number
(CHEMTREC) **(800) 424-9300**
Other calls: **(978) 777-1100**

2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS CONSTITUENTS

Constituent	Abbr.	CAS No.	Weight percent	Exposure limits: ACGIH TLV	OSHA PEL	Other Limits
Aminoethylpiperazine	AEP	140318	< 50	n/e	n/e	n/e
Nonylphenol		25154523	> 30	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: Amber 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:

If the hardener is strongly heated or atomized, the vapor or mist can cause severe irritation of the respiratory tract. 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 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.

4. FIRST AID MEASURES

First aid for eyes:

Flush with clear water holding eyelids open for at least 15 minutes. Get immediate medical attention.

First aid for skin:

Remove contaminated clothing and shoes. Wipe off hardener and wash thoroughly with mild soap and water; see a doctor if redness or swelling occurs

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. If patient is conscious, dilute by giving milk or water. Get immediate medical attention.

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 attected 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): 275 **Method:** PMCC

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.

Hazardous products of combustion:
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 or smoking.
---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 occassional 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 (nitrile) 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

Specific gravity:	0.97		**Boiling point (°F):**	>430
Melting point (°F):	n/d		**Vapor density (air = 1):**	>1
Vapor pressure (mmHg):	<1mm Hg	at 77 °F	**Evaporation rate (butyl acetate = 1):**	<1
VOC (grams/liter):	0		**Solubility in water:**	Completely
Percent volatile by volume:	0		**pH (5% solution or slurry in water):**	10.5-11.5
Percent solids by weight:	100			0

10. STABILITY AND REACTIVITY

This product is chemically stable. Hazardous polymerization will not occur.

Conditions to avoid:
Extreme heat or open flame

Incompatible materials:
Strong oxidizing agents (i.e. percchlorates, 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)
Not available.

Acute dermal effects
LD50 (rabbit): > 2000 mg/kg (estimate)
Not available.

Acute inhalation effects:
LC50 (rat): No data in 0 hours
Not available.

Eye irritation:
Not available.

Subchronic effects
Not available.

Chronic effects
Not available.

Carcinogenicity, teratogenicity, and mutagenicity:
Nonyphenol 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)
Aminoethylpiperazine	2140 mg/kg	900 mg/kg	n/d
Nonylphenol	1620 mg/kg	2140 mg/kg	>1 mg/L

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 prefferred 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.:** 8147-1

Emergency Response Guide no.: 153

Other: Marine Pollutant (nonylphenol)

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

*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;D2B

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

16. OTHER INFORMATION

Hazardous Materials Information System (HMIS) ratings:

Health	Flammability	Reactivity
3*	1	0

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 warrenty, express or implied, as to its correctness or completeness, or as to the results of reliance on this document.