

2-TON CLEAR EPOXY RESIN

This product appears in the following stock number(s):

14260 14310 14310G 14355 14360 DA041 DA042

Last revised: 11/21/01

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**Tradename:** 2-TON CLEAR EPOXY RESIN**Product Identifier:** EPOXY RESIN**General use:** 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.**Chemical family:** Epoxy resin**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****Exposure limits**

Constituent	Abbr.	CAS No.	Weight percent	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) 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, form, odor: viscous liquid with little odor.

WARNING! Eye and skin irritant. Potential skin sensitizer.**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 which may result in permanent damage. May cause skin sensitization (itching, redness, rashes, hives, burning, swelling).**Eyes:** Moderate irritant (stinging, burning sensation, tearing, redness, swelling). Contact at elevated temperatures can cause thermal burns which may result in permanent damage or blindness.

Inhalation:

The low vapor pressure of the resin makes inhalation unlikely in normal use. In applications where vapors (caused by high temperature) or mists (caused by mixing) are created, breathing may cause a mild burning sensation in the nose, throat and lungs.

Ingestion:

Acute oral toxicity is low. May cause gastric distress (nausea, vomiting, diarrhea).

Effects of chronic overexposure:

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

Carcinogenicity -- OSHA regulated: No

ACGIH: No

National Toxicology Program: No

International Agency for Research on Cancer: No

Cancer-suspect constituent(s) : Phenyl glycidyl ether

Medical conditions which may be aggravated by exposure:

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

Other effects:

See section 11.

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

Flush eye with clean water for at least 20 minutes while gently holding eyelids open, lifting upper and lower lids. Get immediate medical attention.

First aid for skin:

Immediately remove contaminated clothing and excess contaminant. Flush skin 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. Administer oxygen if breathing is difficult. Get medical attention if symptoms persist.

First aid for ingestion:

Do NOT induce vomiting. Rinse mouth out with water, then sip water to remove taste from mouth. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips (if sitting) or to the side (if lying down) to prevent aspiration. Get medical attention.

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

Water

Carbon dioxide

Dry chemical

Foam

Alcohol foam

Flash Point (°F): >400

Method: PMCC

Explosive limits in air (percent) -- 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. Personnel in vicinity and downwind should be evacuated.

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:

Store in a cool, dry area away from high temperatures and flames. Keep containers closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

Ventilation :

Use ventilation that is adequate to keep employee exposure to airborne concentrations below exposure limits (or to the lowest feasible levels when limits have not been established). Although good general mechanical ventilation is usually adequate for most industrial applications, local exhaust ventilation is preferred (see ACGIH - Industrial Ventilation). Local exhaust may be required for confined areas (see OSHA 1910.146).

Other engineering controls :

Have emergency shower and eye wash available.

Personal protective equipment

Eye and face protection:

Chemical goggles if liquid contact is likely, or Safety glasses with side shields.

Skin protection:

Chemical-resistant gloves (i.e. butyl) and other gear 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 cartridges for uncured resin and dust/particle respirators during grinding/sanding operations of cured resin as exposure levels dictate (see OSHA 1910.134).

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity:	1.17	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		

10. STABILITY AND REACTIVITY

This material 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 products of decomposition:

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

Conditions under which hazardous polymerization may occur:

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 (DGEBPA Resin)

Acute dermal effects: LD50 (rabbit): >20 ml/kg (DGEBPA Resin)

DGEBPA: Draize -1.6 (rabbit)

Acute inhalation effects: LC50 (rat): No deaths in saturated air (DGEBPA)

Exposure: 8 hours.

Eye irritation:

DGEBPA: Draize -2 (rabbit)

Subchronic effects:

No data available.

Carcinogenicity, teratogenicity, and mutagenicity:

1) MUTAGENICITY: Liquid resins based on diglycidyl ether of Bisphenol A (DGEBPA), have proved to be inactive when tested by in vivo mutagenicity assays. These resins have shown activity in in vitro microbial mutagenicity screening and have produced chromosomal aberrations in cultured rat liver cells. The significance of these tests to

man is unknown. 2) CARCINOGENICITY: Recent 2-year bioassays in rats and mice exposed by the dermal route to DGEBPA yielded no evidence of carcinogenicity to the skin or any other organs. This study clarifies prior equivocal results from a 2-year mouse skin painting study, which were suggestive, but not conclusive, for weak carcinogenic activity. 3) The International Agency for Research on Cancer (IARC) concluded that DGEBPA is not classifiable as a carcinogen (IARC group 3), that is human and animal evidence of carcinogenicity is inadequate.

Other chronic effects:

Prolonged or repeated skin contact may cause sensitization, with itching, swelling, or rashes on later exposure. Studies have shown bisphenol A diglycidyl ether resin to cause allergic contact dermatitis.

Toxicological information on hazardous chemical constituents of this product:

Constituent	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 4hr, (rat)
Bisphenol A diglycidyl ether resin	11.4 g/kg	>20 ml/kg	no deaths

'n/d' = 'not determined'

12 ECOLOGICAL INFORMATION**Ecotoxicity:**

No data available.

Mobility and persistence:

No data available.

Environmental fate:

No data available.

13. DISPOSAL CONSIDERATIONS

Please see also Section 15, Regulatory Information.

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. Incineration is the preferred method of disposal.

14. TRANSPORT INFORMATION

Proper shipping name: Non-regulated
Technical name : N/A
Hazard class : N/A
UN number: N/A
Packing group: N/A
Emergency Response Guide no.: N/A
IMDG page number: 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.

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	0.0	Not required

*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substance 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. For specific requirements, consult the appropriate regulations.

For purposes of SARA Section 312 hazardous materials inventory reporting, the following hazard classes apply to this material: - Immediate health hazard -- Delayed health hazard -

Canadian regulations

WHMIS hazard class(es) : D2B

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

California regulations:

For purposes of the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Prop. 65), this product contains a chemical or chemicals known to the State of California to cause cancer.

16. OTHER INFORMATION

Hazardous Materials Identification 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 warranty, express or implied, as to its correctness or completeness, or as to the results of reliance on this document.

2-TON CLEAR EPOXY HARDENER

This product appears in the following stock number(s):

14260 14310 14310G 14355 14360 DA041 DA042

Last revised: 07/07/1999

Printed: 12/6/2001

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**Tradename:** 2-TON CLEAR EPOXY HARDENER**General use:** The following health hazard data pertain to the hardener only. When fully cured, the mixed product is non-hazardous.**Chemical family:** Polyamine adduct**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****Exposure limits**

Constituent	Abbr.	CAS No.	Weight percent	ACGIH TLV	OSHA PEL	Other Limits
Aminoethylpiperazine	AEP	140318	15-25	n/e	n/e	n/e
Nonylphenol		25154523	75-85	n/e	n/e	n/e

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) 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, form, odor: Amber liquid with ammonia-like, fishy odor.

DANGER! Corrosive. Eye, skin and respiratory irritant. Potential skin sensitizer.**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.

Carcinogenicity -- OSHA regulated: No**ACGIH: No****National Toxicology Program: No****International Agency for Research on Cancer: No****Cancer-suspect constituent(s) : None****Medical conditions which may be aggravated by exposure:**

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

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 affected tissues may occur following exposure. Give supportive treatment similar to thermal burns.

5. FIRE FIGHTING MEASURES**General fire and explosion characteristics:**

Combustible liquid, class IIIB

Extinguishing media: Water Carbon dioxide Dry chemical Foam Alcohol foam**Flash Point (°F):** 275**Method:** PMCC**Explosive limits in air (percent) -- 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:

- 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 (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		

10. STABILITY AND REACTIVITY

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

Conditions to avoid :

Extreme heat or open flame

Incompatible materials:

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

Hazardous products of decomposition:

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

Conditions under which hazardous polymerization may occur:

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): No data

Exposure: hours.

Eye irritation:

Not available.

Subchronic effects:

Not available.

Carcinogenicity, teratogenicity, and mutagenicity:

Nonyphenol has caused allergic sensitization in humans.

Other chronic effects:

Not available.

Toxicological information on hazardous chemical constituents of this product:

Constituent	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 4hr, (rat)
Aminoethylpiperazine	2140 mg/kg	880 mg/kg	n/d
Nonylphenol	1620 mg/kg	2140 mg/kg	>1 mg/L

'n/d' = 'not determined'

12 ECOLOGICAL INFORMATION**Ecotoxicity:**

Not available.

Mobility and persistence:

Not available.

Environmental fate:

Not available.

13. DISPOSAL CONSIDERATIONS

Please see also Section 15, Regulatory Information.

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
Emergency Response Guide no.: 153
IMDG page number: N/A
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	0.0	Not required
Nonylphenol	No	No	0.0	Not required

*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substance 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. For specific requirements, consult the appropriate regulations.

For purposes of SARA Section 312 hazardous materials inventory reporting, the following hazard classes apply to this material: - 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 Identification System (HMIS) ratings:

Health
3*

Flammability
1

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