

FOOD GRADE RESIN

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

DA998 DA999

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**Tradename:** FOOD GRADE 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
Microcrystalline silica		1317959	< 1	0.1mg/m ³	10/(%Q+2) mg	0.1mg/m ³ (Canada)
Crystalline silica		14808607	20-40	0.05 mg/m ³	10/(%Q+2) mg	0.10 mg/m ³ (Canada)
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: Yes

International Agency for Research on Cancer: Yes

Cancer-suspect constituent(s) : silica

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.

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.

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 needed in normal use with proper ventilation. In poorly ventilated areas use NIOSH approved organic vapor cartridge respirator for uncured resin, dust/particle respirator during grinding/sanding operations for cured resin, or fresh airline respirator as exposure levels dictate (see OSHA 1910.134).

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity:	1.38	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)
Microcrystalline silica	n/d	n/d	n/d
Crystalline silica	n/d	n/d	n/d
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.

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
Microcrystalline silica	No	No	0.0	Not required
Crystalline silica	No	No	0.0	Not required
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; D2A

16. OTHER INFORMATION

**Hazardous Materials
Identification System (HMIS)
ratings:**

Health**2*****Flammability****1****Reactivity****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.

FOOD GRADE HARDENER

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

DA998 DA999

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**Tradename:** FOOD GRADE HARDENER**General use:** The following data pertain to the hardener only; properly mixed and cured epoxies are not hazardous.**Chemical family:** Modified aliphatic polyamine**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
Diethylenetriamine	DETA	111400	10-25	1 ppm	1 ppm	1ppm (Canada)
Microcrystalline silica		1317959	< 1	0.1mg/m ³	10/(%Q+2) mg	0.1mg/m ³ (Canada)
Crystalline silica		14808607	20-40	0.05 mg/m ³	10/(%Q+2) mg	0.10 mg/m ³ (Canada)
Polymer of epichlorohydrin, bisphenol A and Diethylenetriamine		31326291	40-70	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 mild ammonia-like odor.

DANGER! Corrosive. Eye, skin and respiratory irritant. Toxic by skin absorption. May cause skin or respiratory sensitization.

Potential health effects

Primary routes of exposure: Skin contact Skin absorption Eye contact Inhalation Ingestion

Symptoms of acute overexposure:

Skin: Corrosive. Potential skin sensitizer.

Eyes: The liquid can cause severe irritation or burns, with possible permanent eye damage. DETA vapor can cause eye irritation and blurred vision.

Inhalation:

Irritation of nose and throat; nausea and vomiting in severe cases. Potential respiratory sensitizer.

Ingestion:

May cause burns of mouth and throat, abdominal pain, nausea, vomiting, and diarrhea. Single dose oral toxicity is considered to be moderate.

Effects of chronic overexposure:

Repeated skin contact or inhalation of fumes can cause sensitization, with itching, rashes, or swelling of the skin or an asthma-like respiratory reaction on later exposure to the product. Repeated overexposure to DETA can cause liver and kidney effects. DMP may cause delayed lung effects which include chemical pneumonia.

Carcinogenicity -- OSHA regulated: No

ACGIH: No

National Toxicology Program: Yes

International Agency for Research on Cancer: Yes

Cancer-suspect constituent(s) : silica

Medical conditions which may be aggravated by exposure:

Allergy, eczema, or skin conditions.

Other effects:

Components of this product may cause liver and kidney effects for humans along with effects on the blood, especially causing anemia.

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

Immediately flush with clean water for at least 30 minutes holding eyelids open. Get medical help immediately.

First aid for skin:

Remove contaminated clothing, wipe off affected area and wash with soap & warm water. See doctor if irritation develops.

First aid for inhalation:

Remove patient to fresh air. Give oxygen or artificial respiration if needed. See a doctor if symptoms persist.

First aid for ingestion:

Corrosive--do not induce vomiting. If patient is conscious, dilute with milk or water. Get immediate medical help.

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

Water Carbon dioxide Dry chemical Foam Alcohol foam

Flash Point (°F): >200

Method: TCC

Explosive limits in air (percent) -- Lower: n/d

Upper: n/d

Special firefighting procedures:

Firefighters should wear self-contained breathing apparatus and sufficient protective gear to prevent all skin and eye contact with this material.

Unusual fire and explosion hazards:

Decomposition produces hazardous fumes.

Hazardous products of combustion:

Oxides of carbon, oxides of nitrogen, ammonia and unidentified organic combustion products.

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.

Laundry 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 container closed.

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

General mechanical ventilation is adequate for occasional use. For prolonged or repeated use or in confined areas, local exhaust is recommended.

Other engineering controls :

Have emergency shower and eye wash stations available.

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

Splashproof chemical goggles

Skin protection:

Chemical-resistant rubber (for example, neoprene) gloves and other protective gear as needed to prevent skin contact

Respiratory protection:

None needed in normal use with proper ventilation. In poorly ventilated areas use NIOSH approved organic vapor cartridge respirator for uncured resin, dust/particle respirator during grinding/sanding operations for cured resin, or

fresh airline respirator as exposure levels dictate (see OSHA 1910.134).

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific gravity:	1.31	Boiling point (°F):	>400
Melting point (°F):	n/d	Vapor density (air = 1):	>1
Vapor pressure (mmHg):	<1 at 68 °F	Evaporation rate (butyl acetate = 1):	<<1
VOC (grams/liter):	0	Solubility in water:	Miscible
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 oxidizers, acids, copper and its alloys

Hazardous products of decomposition:

Acrid and toxic fumes with organic amines, ammonia, aldehydes, oxides of carbon and nitrogen

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): No data

Acute dermal effects: LD50 (rabbit): No data

Corrosive to the skin of a rabbit.

Acute inhalation effects: LC50 (rat): No data

Exposure: hours.

Eye irritation:

Consider corrosive.

Subchronic effects:

No data.

Carcinogenicity, teratogenicity, and mutagenicity:

In an oral gavage screening study, DETA has been toxic to the fetus in laboratory animal tests.

Other chronic effects:

No data.

Toxicological information on hazardous chemical constituents of this product:

Constituent	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 4hr, (rat)
Diethylenetriamine	1080 mg/kg	1090 mg/kg	n/d
Microcrystalline silica	n/d	n/d	n/d
Crystalline silica	n/d	n/d	n/d
Polymer of epichlorohydrin, bisphenol A and Diethylenetriamine	n/d	n/d	n/d

'n/d' = 'not determined'

12 ECOLOGICAL INFORMATION**Ecotoxicity:**

DETA: Acute LC50 for water flea (*Daphnia magna*) is 17 mg/l; DETA: Acute LC50 for fathead minnow (*Pimephales promelas*) is 332 mg/L . DETA: Acute LC50 for brine shrimp (*Artemia salina*) is 710 mg/L.

Mobility and persistence:

No data.

Environmental fate:

No data.

13. DISPOSAL CONSIDERATIONS**Please see also Section 15, Regulatory Information.****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:** Diethylenetriamine solution ***Technical name :** N/A**Hazard class :** 8**UN number:** 2079**Packing group:** II**Emergency Response Guide no.:** 154**IMDG page number:** N/A**Other:**

*Depending upon the size and type of container, this material may be reclassified as "Consumer Commodity, ORM-D" for shipments within the United States, or "Limited Quantity" elsewhere. Refer to the appropriate regulation.

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
Diethylenetriamine	No	No	0.0	Required
Microcrystalline silica	No	No	0.0	Not required
Crystalline silica	No	No	0.0	Not required
Polymer of epichlorohydrin, bisphenol A and Diethylenetriamine	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;E; D2A; D1B

16. OTHER INFORMATION

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