MSDS

The attached MSDS supercedes all previously dated sheets.

VENDOR: DEVCON C246-00

STOCK#	MFG#/DESCRIPTION
G21-214	S-208 5-MIN EPOXY

5-MINUTE EPOXY RESIN

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

14200 14210 14250 14250G 14270 14630 DA007 DA032
DA051 DA095 DA208 DA275 VC018

Last revised: 11/21/01
Printed: 12/4/2001

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Tradename: 5-MINUTE 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 cartidges 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 dermititis.

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.

5-MINUTE EPOXY HARDENER

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

14200 14210 14250 14250G 14270 14630 DA005 DA007
DA009 DA032 DA043 DA051 DA095 DA208 DA275 DC014
DC040 VC020

Last revised: 11/21/01
Printed: 12/4/2001

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Tradename: 5-MINUTE EPOXY HARDENER

General use: The following information applies to the hardener component of the two-part kit and to freshly mixed resin and hardener. After curing, this product is not hazardous.

Chemical family: Polymercaptan/polyamine mixture

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
Mercaptan amine blend		*	90-100	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, amber liquid with Mercaptan odor.

WARNING! Eye, skin and respiratory irritant. Potential skin sensitizer. Overexposure may cause delayed lung effects.

Potential health effects

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

Symptoms of acute overexposure:

Skin: Can cause severe irritation, especially on prolonged contact. Potential sensitizer.
Eyes: Causes severe irritation with possible permanent damage and even blindness.
Inhalation:
Considered slightly toxic. Can cause irritation of respiratory tract. Over exposure to fumes or vapors may cause delayed lung injury and chemical pneumonia.

Ingestion:
Slightly toxic. May cause fatigue, muscle weakness, gastrointestinal irritation, nausea, vomiting and diarrhea.

Effects of chronic overexposure:
Prolonged or severe overexposure to vapor can cause delayed lung damage and chemical pneumonia. Prolonged or repeated contact with this material may cause skin sensitization.

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:
May aggravate existing skin, eye, and lung conditions.

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. Administer 3-4 glasses of milk or water. 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 immediate medical attention.

5. FIRE FIGHTING MEASURES

General fire and explosion characteristics:
Class IIIB.

Extinguishing media:
☒ Water ☒ Carbon dioxide ☒ Dry chemical ☒ Foam ☐ Alcohol foam

Flash Point (°F): >200 **Method:** PMCC

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

Special firefighting procedures:
Do not enter confined space without full bunker gear. Firefighters should wear self-contained breathing apparatus and protective clothing to prevent all skin and eye contact with this material. Cool fire exposed containers with water.

Unusual fire and explosion hazards:
Personnel in vicinity and downwind should be evacuated.

Hazardous products of combustion:
Acrid and toxic fumes with organic amines, ammonia, oxides of carbon and nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Spill control:
Avoid personal contact. Evacuate area. 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. Collect run-off water and transfer to drums or tanks for later disposal. Notify local health authorities and other appropriate agencies if such contamination occurs.

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 dust during sanding/grinding of cured product.

Storage:

Store in a cool, dry area away from high temperatures and flames. Keep container tightly 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 rubber (e.g. neoprene, butyl rubber, nitrile) 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 cartidges 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:	1.13	**Boiling point (°F):**	n/d
Melting point (°F):	n/d	**Vapor density (air = 1):**	n/d
Vapor pressure (mmHg):	<<1 at 70 °F	**Evaporation rate (butyl acetate = 1):**	n/d
VOC (grams/liter):	0	**Solubility in water:**	Negligible
Percent volatile by volume:	0	**pH (5% solution or slurry in water):**	9.5
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 oxidizing agents. Amines.

Hazardous products of decomposition:
Oxides of carbon, oxides of sulfur, oxides of nitrogen.

Conditions under which hazardous polymerization may occur:
When this hardener is mixed with an epoxy resin heat is generated; be careful when mixing more than an ounce or so.

11. TOXICOLOGICAL INFORMATION

Acute oral effects: LD50 (rat): Not available.

Acute dermal effects: LD50 (rabbit): Not available.
Rabbit: Severe irritant.

Acute inhalation effects: LC50 (rat): Not available. Exposure: 0 hours.

Eye irritation:
Rabbit: Severe irritant.

Subchronic effects:
No data.

Carcinogenicity, teratogenicity, and mutagenicity:
No data.

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)
Mercaptan amine blend	n/d	n/d	n/d

'n/d' = 'not determined'

12 ECOLOGICAL INFORMATION

Ecotoxicity:
No data.

Mobility and persistence:
No data.

Environmental fate:
No data.

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
Mercaptan amine blend	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.

16. OTHER INFORMATION

Hazardous Materials Identification System (HMIS) ratings:	Health	Flammability	Reactivity
	3*	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.