

Material Safety Data Sheet

ITW Performance Polymers - Devcon

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FLOW-MIX 60 SECOND EPOXY RESIN

This product appears in the following stock number(s):
21445

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Tradename: FLOW-MIX 60 SECOND 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 Performance Polymers - Devcon
Consumer Division
2107 West Blue Heron Blvd.
Riviera Beach, FL 33404

EMERGENCY INFORMATION

Emergency telephone number
(CHEMTREC): (800) 424-9300
(CHEMTREC International): 703-527-3887
Other Calls: (561) 845-2425

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	Abbr.	Weight Percent	ACGIH TLV:	OSHA PEL:	Other Limits
BISPHENOL A/EPICHLOROHYDRIN BASED EPOXY RESIN 25068-38-6	DGEBPA	>80	n/e	n/e	n/e
TRADE SECRET (Non-hazardous) MIXTURE	n/e	Balance	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 identify is a trade secret of our supplier and unknown to us.

3. HAZARDOUS IDENTIFICATION

Emergency Overview

Appearance, form, odor: Clear viscous liquid with little odor

WARNING!. Eye and skin irritant. Potential skin sensitizer.

Potential health effects

Primary Routes of Exposure: Eye, skin

Symptoms of acute overexposure

Skin: Moderate skin irritant . Contact at elevated temperatures can cause thermal burns which may result in permanent damage. Potential sensitizer.

Eyes: May cause moderate eye irritation. 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.

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

Effects of Chronic Exposure: Prolonged or repeated skin contact may cause sensitization, with itching, swelling or rashes on later exposure.

Medical Conditions Recognized as Being Aggravated by Exposure:

Preexisting eye, skin and respiratory disorders may be aggravated by overexposure to this product.

4. FIRST AID MEASURES

Eye Contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

Skin Contact: Remove contaminated clothing. Wash area with soap and water. If irritation persists, seek medical attention.

Inhalation: If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Ingestion: Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

Notes to Physician: In general, emesis induction is unnecessary in high viscosity, low volatility products..

5. FIRE FIGHTING MEASURES

Recommended Extinguishing Media: Carbon dioxide, Dry chemical, foam

Flash point: >400°F

Method: PMCC

Lower Explosive

Upper Explosive

Limit: n/d

Limit: n/d

Special Fire-Fighting 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 to prevent all skin and eye contact. Use water spray to cool exposed containers.

Unusual Fire/Explosion Hazards:

Heating above 300°F in the presence of air may cause slow oxidation decomposition and above 500°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.

Special procedures: Prevent spill from entering drainage/sewer systems, waterways and surface water.

7. HANDLING AND STORAGE

Handling precautions: Avoid contact with the skin and the eyes. 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. Store away from heat.

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 CFR29 1910.146).

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 (i.e. butyl) and other gear as required to prevent skin contact.

Respiratory protection: With good ventilation, none required. An approved respirator (i.e. NIOSH, etc.) should be worn when exposures are expected to exceed the applicable limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.16

Boiling Point: >500°F

Melting point: n/d

Vapor Density (Air=1): >1

Vapor Pressure: 0.03 mmHg @ 171°F

Evaporation Rate: <1 (butyl acetate = 1)

VOC: 0

Solubility in water: Negligible

pH (5% solution or slurry in water): Neutral

10. STABILITY AND REACTIVITY

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

Conditions to Avoid: Open flame and extreme heat.

Incompatibilities: Strong Lewis or mineral acids, strong oxidizing agents, strong mineral and organic bases (esp. primary and secondary aliphatic amines)

Hazardous Products of Combustion: When heated to decomposition it emits fumes of Cl-, carbon monoxide, other fumes and vapors varying in composition and toxicity

Conditions under which hazardous polymerization may occur: Heat is generated when resin is mixed with curing agents; Run-away cure reactions may char and decompose the resin, generating unidentified fumes and vapors which may be toxic.

11. TOXICOLOGICAL INFORMATION

Eye irritation: No data available.

Subchronic effects: No data available.

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 invivo mutagenicity assays. Both have shown activity by invitro microbial mutagenicity screening and have produced chromosomal aberrations in cultured rat liver cells.

Other 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 the resin "is not a systemic carcinogen when applied to the dorsal skin of CF1 mice."

Toxicological information on hazardous chemical constituents of this product:

Ingredient	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 4hr (rat)
BISPHENOL A/EPICHLOROHYDRIN BASED EPOXY RESIN 25068-38-6	11400 mg/kg	n/d	n/d
TRADE SECRET (Non-hazardous) MIXTURE	n/d	n/d	n/d

'n/d' = not determined

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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.

Recommended Method of Disposal: If 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.

US EPA Waste Number: NH - Not a RCRA Hazardous Waste Material.

14. TRANSPORT INFORMATION

Proper shipping name: Not regulated

Technical name: N/A

Hazard class: N/A

UN/ID Number: N/A

Packing group: N/A

Emergency Response Guide no: N/A

IMDG page number: 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:

Ingredient	Extremely Hazardous*	Toxic Chemical**	CERCLA RQ (lbs)	12B EXPORT NOTIFICATION:
BISPHENOL A/EPICHLOROHYDRIN BASED EPOXY RESIN 25068-38-6	No	No	0.0	Not required
TRADE SECRET (Non-hazardous) MIXTURE	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

California regulations: For purposes of the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Prop 65), this product does not contain any chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Canadian regulations

WHMIS Hazard Class: D2B TOXIC MATERIALS

16. OTHER INFORMATION

Hazardous Material Information System (HMIS) rating:

Health 2* Flammability 1 Physical Hazard 1

HMIS is a registered trademark of the National Paint and Coatings Assn.

Revision Date: 11/14/2005

Revision Number: 4

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.

Material Safety Data Sheet

ITW Performance Polymers - Devcon

1 of 5

FLOW-MIX 60 SECOND EPOXY HARDENER

This product appears in the following stock number(s):
21445

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Tradename: FLOW-MIX 60 SECOND 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 Performance Polymers - Devcon
Consumer Division
2107 West Blue Heron Blvd.
Riviera Beach, FL 33404

EMERGENCY INFORMATION

Emergency telephone number
(CHEMTREC): (800) 424-9300
(CHEMTREC International): 703-527-3887
Other Calls: (561) 845-2425

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	Abbr.	Weight Percent	ACGIH TLV:	OSHA PEL:	Other Limits
POLYAMIDE-POLYMERCAPTAN EPOXY HARDENER *	n/e	>80	n/e	n/e	n/e
TRADE SECRET (Non-hazardous) MIXTURE	n/e	Balance	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 identify is a trade secret of our supplier and unknown to us.

3. HAZARDOUS IDENTIFICATION

Emergency Overview

Appearance, form, odor: Amber liquid with mercaptan odor

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

Potential health effects

Primary Routes of Exposure: Eye and skin contact, ingestion, inhalation

Symptoms of acute overexposure

Skin: Corrosive. Severe irritation or burns, necrosis, blistering and permanent injury.

Eyes: May cause severe eye irritation. Corneal injury may result..

Inhalation: If the hardener is poorly ventilated, strongly heated or atomized, the vapor or mist can cause severe irritation of the respiratory tract, damage contacted tissue and produce scarring. Coughing and chest pain may result, nausea and vomiting in severe cases. Overexposure to fumes or vapors may cause delayed lung injury and chemical pneumonia.

Ingestion: Causes severe damage to mucous membranes if swallowed. May cause intestinal pain/discomfort, nausea, vomiting, diarrhea. May cause burns of the mouth, throat and stomach. Aspiration can be a hazard if this material is swallowed.

Effects of Chronic Exposure: Prolonged or repeated skin contact may cause sensitization, with itching, swelling or rashes on later exposure. Repeated or prolonged exposure may cause adverse eye effects (conjunctivitis, corneal damage), or skin effects (rash, irritation, corrosion). Overexposure may cause delayed lung injury and chemical pneumonia.

Medical Conditions Recognized as Being Aggravated by Exposure:

Preexisting eye, skin and respiratory disorders may be aggravated by overexposure to this product.

Other:

This product has an offensive odor

4. FIRST AID MEASURES

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

Skin Contact: Immediately remove contaminated clothing and excess contaminant. Flush with water for at least 15 minutes. Wash thoroughly with soap and water. Consult a physician if irritation develops.

Inhalation: If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Ingestion: If swallowed, give at least 3-4 glasses of water, but do not induce vomiting. Do not give anything by mouth to an unconscious or convulsing person. Get medical attention..

5. FIRE FIGHTING MEASURES

General fire and explosion characteristics: Class IIIB.

Recommended Extinguishing Media: Water, Dry chemical, Carbon dioxide, foam

Flash point: >200°F

Method: PMCC

Lower Explosive

Upper Explosive

Limit: n/d

Limit: n/d

Special Fire-Fighting 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. Use water spray to cool exposed containers.

Unusual Fire/Explosion Hazards:

Sudden reaction and fire may result if product is mixed with an oxidizing agent. Personnel in vicinity and downwind should be evacuated.

Hazardous Products of Combustion:

Oxides of carbon, Oxides of nitrogen, Oxides of sulfur

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. Clean-up waste water should be placed in appropriate containers for proper disposal.

Special procedures: Prevent spill from entering drainage/sewer systems, waterways and surface water. 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 breathing vapors or mists. Avoid contact with the skin and the eyes. 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. DO NOT mix with sodium nitrite or other nitrosating agents as cancer-causing nitrosamines could be formed.

Storage: Store in a cool, dry area. Store away from heat. Do not store in reactive metal containers. Keep away from acids and oxidizers.

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 CFR29 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 (Neoprene, nitrile) and other gear as required to prevent skin contact.

Respiratory protection: With good ventilation, none required. In poorly ventilated areas use NIOSH-approved organic vapor cartridge respirator for uncured resin, dust/particle respirators during grinding/sanding operations for cured resin, or fresh airline respirator as exposure levels dictate (see OSHA CFR29 1910.134).

9. PHYSICAL AND CHEMICAL PROPERTIES

Specific Gravity: 1.12

Boiling Point: n/d

Melting point: n/d

Vapor Density (Air=1): >1

Vapor Pressure: n/d

Evaporation Rate: <1 (butyl acetate = 1)

VOC: 0

Solubility in water: Dispersible

pH (5% solution or slurry in water): n/d

10. STABILITY AND REACTIVITY

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

Conditions to Avoid: Open flame and extreme heat.

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

Hazardous Products of Combustion: Oxides of carbon, Oxides of nitrogen, Oxides of sulfur

Conditions under which hazardous polymerization may occur: Heat is generated when resin is mixed with curing agents; Run-away cure reactions may char and decompose the resin, generating unidentified fumes and vapors which may be toxic.

11. TOXICOLOGICAL INFORMATION

Eye irritation: No data available.

Subchronic effects: No data available.

Carcinogenicity, tertogenicity and mutagenicity: No data available.

Other chronic effects: Not determined.

Toxicological information on hazardous chemical constituents of this product:

Ingredient	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 4hr (rat)
POLYAMIDE-POLYMERCAPTAN EPOXY HARDENER	n/d	n/d	n/d
TRADE SECRET (Non-hazardous) MIXTURE	n/d	n/d	n/d

'n/d' = not determined

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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.

Recommended Method of Disposal: If 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.

US EPA Waste Number: NH - Not a RCRA Hazardous Waste Material.

14. TRANSPORT INFORMATION

Proper shipping name: Corrosive liquid, basic, organic, n.o.s.

Technical name: Amine/Mercaptan blend

Hazard class: 8

UN/ID Number: 3267

Packing group: III

Emergency Response Guide no: 153

IMDG page number: Not determined

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:

Ingredient	Extremely Hazardous*	Toxic Chemical**	CERCLA RQ (lbs)	12B EXPORT NOTIFICATION:
POLYAMIDE-POLYMERCAPTAN EPOXY HARDENER*	No	No	0.0	Not required
TRADE SECRET (Non-hazardous) MIXTURE	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

California regulations: For purposes of the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Prop 65), this product does not contain any chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Canadian regulations

WHMIS Hazard Class: D2B TOXIC MATERIALS, E CORROSIVE MATERIAL,
All components of this product are on the Domestic Substances List

16. OTHER INFORMATION

Hazardous Material Information System (HMIS) rating:

Health 3* Flammability 1 Physical Hazard 0

HMIS is a registered trademark of the National Paint and Coatings Assn.

Revision Date: 11/14/2005

Revision Number: 4

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