Part No. K45-S14
Material Data Sheet
FOR CHEMICAL EMERGENCIES PLEASE CONTACT: 1-800-535-5053

RAPID SET EPOXY GEL RESIN

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product Identifier</th>
<th>EPOXY RESIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical family</td>
<td>Epoxy resin</td>
</tr>
<tr>
<td>General information</td>
<td>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.</td>
</tr>
</tbody>
</table>

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS#</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bisphenol A diglycidyl ether resin</td>
<td>25068-98-6</td>
<td>60-100 by Weight</td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION

**Emergency Overview**

Appearance, physical form, odor: viscous liquid with little odor.

**CAUTION!** Eye and skin irritant (evidenced by itching, redness). Potential skin sensitizer. Avoid contact with eyes. Avoid prolonged or repeated skin contact. Don’t not take internally. Wash thoroughly after handling.

**Potential health effects:**

- [ ] Skin contact
- [ ] Skin absorption
- [ ] Eye contact
- [ ] Inhalation
- [ ] Ingestion

Custom packaged for:

CHEMICAL CONCEPTS
410 PIKE ROAD
HUNTINGDON VALLEY, PA 19006

Emergency Information:

Emergency telephone number
(CHEMTREC) (800) 424-9300
Other Calls: (215) 357-2754
(800) 220-1966
Symptoms of acute overexposure:

Skin:  
Moderate irritant. Contact at elevated temperatures can cause thermal burns. May cause skin sensitization (rashes, hives).

Eyes:  
Moderate irritant. Contact at elevated temperatures can cause thermal burns

Inhalation:  
The low vapor pressure of the resin makes inhalation unlikely in normal use.

Ingestion:  
Acute oral toxicity is low. May cause gastric distress.

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

Medical conditions which may be aggravated by exposure:  
Preexisting eye and skin disorders. Development or preexisting skin or lung allergy symptoms may increase.

Carcinogenicity – OSHA regulated: No  
ACGIH: No  
National Toxicology Program: No  
International Agency for Research on Cancer: No  
Cancer-suspect constituents(s): None

Other effects  
See section 11.

4. FIRST AID MEASURES

First aid for eyes:  
Flush eye with clean water for at least 15 minutes while gently holding eyelids open. Get immediate medical attention.

First aid for skin:  
Immediately remove contaminated clothing and excess contaminant. Flush skin with water. Wash thoroughly with soap and warm water. Consult a physician if irritation develops.

First aid for inhalation:  
Remove patient to fresh air. Administer oxygen if Breathing is difficult. Get medical attention if symptoms persist.

First aid for ingestion:  
Do NOT induce vomiting. Give two glasses of water to dilute if patient is conscious. Get medical attention

Note to physician:  
In general, emesis induction is unnecessary in high viscosity, low volatility product, e.g., neat epoxy resins.
5. FIRE FIGHTING MEASURES

Extinguishing media:

- Water
- Carbon dioxide
- Dry chemical
- Foam
- Alcohol foam

Flash Point (oF): >400
Explosive limits in air – Lower: n/d
Upper: n/d

Method: PMCC

Special firefighting procedures:
Material will not burn unless preheated. Do not enter confined space without full bunker gear. Firefighters should wear self-contained breathing apparatus and protective clothing. Cool fire exposed containers with water.

Unusual fire and explosion hazards:
Heating above 300 deg F in the presence of air may cause slow oxidative decomposition and above 500 deg F may cause polymerization.

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

6. ACCIDENTAL RELEASE MEASURES

Spill control:
Avoid personal contact. Eliminate ignition sources. Ventilate area.

Containment:
Dike, contain and absorb with clay, sand or other suitable material.

Cleanup:
For large spills, pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable material and dispose of properly. Flush area with water to remove trace residue.

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

7. HANDLING AND STORAGE

Handling precautions:
Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after using and particularly before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Launder contaminated clothing and protective gear before reuse. Discard contaminated leather articles. Handle mixed resin and hardener in accordance with the potential hazard of the curing agent used. Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against nuisance dust during sanding/grinding of cured product.

Storage precautions:
8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Engineering Controls

Ventilation:
Local exhaust ventilation is preferred although good general mechanical ventilation is usually adequate for most industrial applications. Local exhaust is recommended for confined areas.

Other engineering controls:
Have emergency shower and eye wash available.

Personal protective equipment

Eye and face protection:
Safety glasses with side shields.

Skin Protection:
Chemical-resistant gloves and other gear as required to prevent skin contact.

Respiratory protection:

None required at normal handling temperatures and condition. Use NIOSH approved organic vapor cartridges for uncured resin and dust/particle respirators during grinding/sanding operations of cured resin as exposure levels dictate.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific gravity</td>
<td>1.1-1.3</td>
</tr>
<tr>
<td>Melting point (°F)</td>
<td>n/d</td>
</tr>
<tr>
<td>Vapor pressure (mmHg)</td>
<td>0.03 mm Hg at 171 °F</td>
</tr>
<tr>
<td>VOC (grams/liter)</td>
<td>0</td>
</tr>
<tr>
<td>Percent Volatile by volume</td>
<td>0</td>
</tr>
<tr>
<td>Percent solids by weight</td>
<td>100</td>
</tr>
<tr>
<td>Boiling point (°F)</td>
<td>&gt;500</td>
</tr>
<tr>
<td>Vapor density (air =1)</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Evaporation rate (butyl acetate = 1)</td>
<td>&lt;&lt;1</td>
</tr>
<tr>
<td>Solubility in water:</td>
<td>Negligible</td>
</tr>
<tr>
<td>Ph (5% solution or slurry in water):</td>
<td>neutral</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY
This product is chemically stable. Hazardous polymerization will not occur.

Conditions to avoid:
Open flame and extreme heat

Incompatible materials:
Strong Liquids or mineral acids, strong oxidizing agents, strong mineral and organic bases (especially primary and secondary aliphatic amines).

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

Conditions of hazardous polymerizations:
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): Not available
Acute dermal effects
LD50 (rabbit): Not available

CHEMICAL CONCEPTS
Part No. K45-514 RAPID SET EPOXY GEL RESIN

Acute inhalation effects:
LC50 (rat): Not available. in 4 hours

Eye irritation:
Not available.

Subchronic effects
No data available

Chronic effects
2-year bioassays in mice exposed by the dermal route 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 that the resin "is not a systemic carcinogen when applied to the dorsal skin of CF1 mice".

Carcinogenicity, teratogenicity, and mutagenicity:
Both the resin and the diglycidyl ether of bisphenol A (a component of this product) have proved to be inactive when tested by In Vivo mutagenicity assays. Both have shown activity by In Vitro microbial mutagenicity screening and have produced chromosomal aberrations in cultured rat liver cells.

Toxicological information on hazardous chemical constituents of this product:

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Oral LD50 (rat)</th>
<th>Dermal LD50 (rabbit)</th>
<th>Inhalation LC50 (rat, 4 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol, polymer with formaldehyde, glycidyl ether</td>
<td>&gt;5000 mg/kg</td>
<td>&gt;6000 mg/kg</td>
<td>&gt;1.7 mg/L</td>
</tr>
<tr>
<td>Bisphenol A diglycidyl ether resin</td>
<td>11.4 g/kg</td>
<td>&gt;20 ml/kg</td>
<td>no deaths</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

Ecotoxicity:
No data available.

Mobility and persistence: Environmental fate:
No data available. No data available

13. DISPOSAL CONSIDERATIONS
Waste management recommendations:
If this resin becomes a waste, it would not be a hazardous waste by RCRA criteria (40CFR 261). Dispose of according to applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

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

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Extremely Hazardous*</th>
<th>Toxic Chemical**</th>
<th>CERCLA RQ(lbs) Notification</th>
<th>TSCA 12 Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol, polymer with formaldehyde, glycylid ether</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Not required</td>
</tr>
<tr>
<td>Bisphenol A diglycidyl ether resin</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Not required</td>
</tr>
</tbody>
</table>

*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substances list.

**Substances for which the “Toxic Chemical” column is marked “Yes” are on the SARA Section 313 list of Toxic Chemicals, for which release reporting may be required. Consult the appropriate regulations for specific requirements.

Classification of this material for SARA Section 312 hazardous materials inventory reporting:
Immediate health hazard Delayed health hazard

Canadian regulations
WHMIS hazard class(es): D2B
All components of this product are on the Domestic Substances List.

16. OTHER INFORMATION

Hazardous Materials Information System (HMIS) ratings:

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>3*</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

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 as to the results of reliance on his document.

CHEMICAL CONCEPTS
410 Pike Road Huntingdon Valley, PA 19006
267 684 1038  1 800 220 1966  Fax: 215 357 2754
E-mail: info@chemical-concepts.com  Web: www.chemical-concepts.com
RAPID SET EPOXY GEL HARDENER

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Chemical family: Polymercaptan/polyamine mixture

General information: The following information applies to the hardener component of the two-part kit and to freshly mixed resin and hardener. After curing, Rapid Set Epoxy Gel Hardener is not hazardous.

CUSTOM PACKAGED FOR:

CHEMICAL CONCEPTS
555 West Annbury Street
Philadelphia PA 19140-1487

EMERGENCY INFORMATION

Emergency telephone number
(CHEMTREC) (800) 424-9300
Other Call: (215) 457-1940
(800) 220-1966

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Abbr.</th>
<th>CAS No.</th>
<th>Weight percent</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol, polymer with formaldehyde, glycidyl ether</td>
<td></td>
<td>28064144</td>
<td>10-20</td>
<td>n/e</td>
<td>n/e</td>
<td>n/e</td>
</tr>
<tr>
<td>Bisphenol A diglycidyl ether resin</td>
<td>DGEB PA</td>
<td>25068386</td>
<td>70-90</td>
<td>n/e</td>
<td>n/e</td>
<td>n/e</td>
</tr>
</tbody>
</table>

“TLV means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless other wise noted) as established by the American Conference of Governmental Industrial Hygienists. “STEL” indicates a short-term exposure limit. “PEL” indicates the OSHA Permissible Exposure Limit. “n/e” indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance, physical form, odor: Viscous liquid with little odor.

CAUTION! Eye and skin irritant (evidenced by itching, redness). Potential skin sensitizer. Avoid contact with eyes. Avoid prolonged or repeated skin contact. Don’t not take internally. Wash thoroughly after handling.
Potential health effects:
Primary routes of exposure:

- Skin contact
- Skin absorption
- Eye contact
- Inhalation
- Ingestion

Symptoms of acute overexposure:

**Skin:**
Moderate irritant. Contact at elevated temperatures can cause thermal burns. May cause skin sensitization (rashes, hives).

**Eyes:**
Moderate irritant. Contact at elevated temperatures can cause thermal burns.

**Inhalation:**
The low vapor pressure of the resin makes inhalation unlikely in normal use.

**Ingestion:**
Acute oral toxicity is low. May cause gastric distress.

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

Medical conditions which may be aggravated by exposure:
Preexisting eye and skin disorders. Development or preexisting skin or lung allergy symptoms may increase.

Carcinogenicity – OSHA regulated: No  ACGIH: No  National Toxicology Program: No  International Agency for Research on Cancer: No  Cancer-suspect constituent(s): None

Other effects
See section 11.

4. FIRST AID MEASURES
First aid for eyes:
Flush eye with clean water for at least 15 minutes while gently holding eyelids open. Get immediate medical attention.

First aid for inhalation:
Remove patient to fresh air. Administer oxygen if Breathing is difficult. Get medical attention if symptoms persist.

First aid for skin:
Immediately remove contaminated clothing and excess contaminant. Flush skin with water. Wash thoroughly with soap and warm water. Consult a physician if irritation develops.

First aid for ingestion:
Do NOT induce vomiting. Give two glasses of water to dilute if patient is conscious. Get medical attention.

5. FIRE FIGHTING MEASURES

Extinguishing media:
- Water
- Carbon dioxide
- Dry chemical
- Foam
- Alcohol foam
Flash Point (°F): >200

Explosive limits in air – Lower: n/d

Special firefighting procedures:
Firefighters should wear self-contained breathing apparatus and protective clothing in confined areas. Cool containers with water spray.

Unusual fire and explosion hazards:
Toxic smoke and vapors may form during combustion.

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

6. ACCIDENTAL RELEASE MEASURES

Spill control:
Avoid personal contact. Eliminate ignition sources. Ventilate area.

Containment:
Dike, contain and absorb with clay, sand or other suitable material.

Cleanup:
For large spills, pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand, or other suitable material and dispose of properly. Flush area with water to remove trace residue.

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

7. HANDLING AND STORAGE

Handling precautions:
Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after using and particularly before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Launder contaminated clothing and protective gear before reuse. Discard contaminated leather articles. Handle mixed resin and hardener in accordance with the potential hazard of the curing agent used. Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against nuisance dust during sanding/grinding of cured product.

Storage precautions:
Store in a cool, dry area away from high temperatures and flames.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

Ventilation:
General mechanical ventilation is adequate for occasional use. For prolonged or repeated use, local exhaust is recommended.

Other engineering controls:
Have emergency shower and eye wash stations available.
Personal protection equipment
Eye and face protection:

Safety glasses with side shields or chemical goggles.

Respiratory protection:
None needed in normal use with proper ventilation. In poorly ventilated areas or when creating a dust or mist, use NIOSH-approved organic vapor respirator.

Skin Protection:
Chemical-resistant rubber (for example, neoprene, butyl rubber or nitrile) gloves and other protective gear as needed to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific gravity</td>
<td>1.1-1.3</td>
</tr>
<tr>
<td>Melting point (°F)</td>
<td>n/d</td>
</tr>
<tr>
<td>Vapor pressure (mmHg)</td>
<td>&lt;&lt;1 at 70°F</td>
</tr>
<tr>
<td>VOC (grams/liter)</td>
<td>0</td>
</tr>
<tr>
<td>Percent Volatile by volume</td>
<td>0</td>
</tr>
<tr>
<td>Percent solids by weight</td>
<td>100</td>
</tr>
<tr>
<td>Boiling point (°F)</td>
<td>n/d</td>
</tr>
<tr>
<td>Vapor density (air =1)</td>
<td>n/d</td>
</tr>
<tr>
<td>Evaporation rate (butyl acetate = 1)</td>
<td>n/d</td>
</tr>
<tr>
<td>Solubility in water:</td>
<td>Negligible</td>
</tr>
<tr>
<td>pH (5% solution or slurry in water):</td>
<td>9.5</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

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

Conditions to avoid:
Open flame and extreme heat.

Incompatible materials:
Strong oxidizing agents.

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

Conditions of hazardous polymerization:
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 in 0 hours

Eye irritation:
Rabbit: Severe irritant

Subchronic effects
Chronic effects

No data.

No data.
Carcinogenicity, teratogenicity, and mutagenicity:

No data.

Toxicological information on hazardous chemical constituents of this product:

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Oral LD50 (rat)</th>
<th>Dermal LD50 (rabbit)</th>
<th>Inhalation LC50 (rat, 4 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4,6-Tris(Dimethylaminomethyl) phenol</td>
<td>1670 mg/kg</td>
<td>1400 mg/kg</td>
<td>&gt;0.5 mg/L</td>
</tr>
<tr>
<td>Polymercaptan curing agent</td>
<td>n/d</td>
<td>n/d</td>
<td>n/d</td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

Ecotoxicity:

No data.

Mobility and persistence: Environmental fate:

No data No data

13. DISPOSAL CONSIDERATIONS

Waste management recommendation:
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: Non-regulated
Technical name: N/A
Hazard class: N/A
UN number: N/A
Emergency Response Guide no: N/A
Other: N/A
Packing group: N/A
IMDG Page no: 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:
**Material Safety Data Sheet**

**CHEMICAL CONCEPTS**

**RAPID SET EPOXY GEL HARDENER**

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Extremely Hazardous*</th>
<th>Toxic Chemical**</th>
<th>CERCLA RQ(lbs)</th>
<th>TSCA 12 Export Notification</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4,6-Tris (Dimethylaminomethyl) phenol</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Not required</td>
</tr>
<tr>
<td>Polymercaptan curing agent</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Not required</td>
</tr>
</tbody>
</table>

*Consult the appropriate regulation for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substances list.

**Substances for which the “Toxic Chemical” column is marked “Yes” are on the SARA Section 313 list of Toxic Chemicals, for which release reporting may be required. Consult the appropriate regulation for specific requirements.

**Classification of this material for SARA Section312 hazardous materials inventory reporting:**
Immediate health hazard  Delayed health hazard

**Canadian regulations**

**WHMIS hazard class(es):** D2B

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

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**16. OTHER INFORMATION**

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>3*</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

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**CHEMICAL CONCEPTS**

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