Material Safety Data Sheet

5-MINUTE EPOXY RESIN

This product appears in the following stock number(s):
14200 14210 14250 14270 14630
S-205, S-206, S-208, S-209

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

2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS CONSTITUENTS

<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>Bisphenol A diglycidyl ether resin</td>
<td>DGEBA</td>
<td>25068386</td>
<td>&gt; 60</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 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.

Eye and skin irritant. Potential skin sensitizer. Avoid contact with eyes. Avoid prolonged or repeated skin contact. Do 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.

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:
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 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 products, e.g., neat epoxy resins.

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 required at normal handling temperatures and conditions. 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

- Specific gravity: 1.19
- Melting point (°F): n/d
- Vapor pressure (mmHg): 0.03 mm Hg at 171 °F
- VC (grams/liter): 0
- Percent volatile by volume: 0
- Percent solids by weight: 100
- Boiling point (°F): >500
- Vapor density (air = 1): >1
- Evaporation rate (butyl acetate = 1): <<1
- 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

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
- Oral LD50 (mouse) = 15.6 g/kg

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

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

Exposure: 8 hours.

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 In Vivo mutagenicity assays. Both have shown activity by In Vitro 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, DGBPA, 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."

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 4hr, (rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bisphenol A diglycidyl ether resin</td>
<td>30 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:
No data available.

Environmental fate:
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 (40 CFR 261). Dispose of according to applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

Proper shipping name: Non-Regulated Material

Technical name:

Hazard class: None

UN number:

Packing group:

Emergency Response Guide no.:

IMDG page number:

Other:
15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA
All ingredients of this product are listed, or are exempt from listing, on the TSCA inventory. Export notification is required under TSCA Sec. 12B – see below.

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)</th>
<th>TSCA 12B Export Notification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bisphenol A diglycidyl ether resin</td>
<td>No</td>
<td>No</td>
<td>None</td>
<td>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 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

<table>
<thead>
<tr>
<th>Hazardous Materials Information System (HMIS) ratings:</th>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2²</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

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