1. Product and Company Identification

Product Code: 301-FCB
Product Name: 301 Fast Cure Hardener- Part B
Trade Name: 301 Fast Cure Hardener- Part B

Manufacturer Information

Company Name: Epoxy Systems, Inc.
20774 W Pennsylvania Ave.
Dunnellon, FL 34431
Phone Number: +1 (352) 489-1666
Emergency Contact: PERS (USA) (800) 633 8253
Alternate Emergency Contact: PERS +1 (801) 629 0667

2. Hazards Identification

GHS Classification

<table>
<thead>
<tr>
<th>GHS Classification</th>
<th>Placard</th>
<th>Key word</th>
<th>GHS hazard phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Sensitization, Category 1A</td>
<td>Exclamation</td>
<td>Warning</td>
<td>May cause an allergic skin reaction</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation, Category 1A</td>
<td>Corrosive</td>
<td>Danger</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation, Category 1</td>
<td>Corrosive</td>
<td>Danger</td>
<td>Causes serious eye damage</td>
</tr>
<tr>
<td>Acute Toxicity: Oral, Category 4</td>
<td>Exclamation</td>
<td>Warning</td>
<td>Harmful if swallowed</td>
</tr>
<tr>
<td>Acute Toxicity: Inhalation, Category 4</td>
<td>Exclamation</td>
<td>Warning</td>
<td>Harmful if inhaled</td>
</tr>
<tr>
<td>Acute Toxicity: Skin, Category 4</td>
<td>Exclamation</td>
<td>Warning</td>
<td>Harmful in contact with skin</td>
</tr>
</tbody>
</table>

GHS Hazard Phrases

H314 - Causes severe skin burns and eye damage.
H317 - May cause an allergic skin reaction.
H302 - Harmful if swallowed.
H332 - Harmful if inhaled.

GHS Precaution Phrases

P281 - Use personal protective equipment as required.
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.

GHS Response Phrases

P303+361+353 - IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+330+331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P309+311 - Call a POISON CENTER or doctor/physician if exposed or you feel unwell.
GHS Storage and Disposal Phrases
P501 - Dispose of contents/container to local, state, and federal authority requirements.

Potential Health Effects (Acute and Chronic)
Corrosive to eyes and skin. Causes burns. May be harmful if swallowed. Irritating to respiratory system. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling. Aspiration hazard if swallowed. Can enter lungs and cause damage.

Inhalation
Corrosive to respiratory tract. May cause respiratory sensitization.

Skin Contact
Contact with substance may cause severe burns to skin. Symptoms may include redness, edema, drying, defatting and cracking of the skin.

Eye Contact
Corrosive/irritation to eyes. Causes eye burns.

Ingestion
Harmful if swallowed. This product may produce corrosive damage to the gastrointestinal tract if it is swallowed. Ingestion may produce burns to the lips, oral cavity, upper airway, esophagus and possibly the digestive tract.

Recommended Exposure Limits
Not established.

Medical Conditions Generally Aggravated By Exposure
Skin disorders, Respiratory disorders, Eye disorders, Skin Allergies.

OSHA Regulatory Status:
This material is classified as hazardous under OSHA regulations.

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Phenol, 4-nonyl-, branched</td>
<td>84852-15-3</td>
<td>45 - 55 %</td>
</tr>
<tr>
<td>2. Diethylenetriamine</td>
<td>111-40-0</td>
<td>10 - 20 %</td>
</tr>
<tr>
<td>3. Benzenemethanol</td>
<td>100-51-6</td>
<td>1.0 - 10 %</td>
</tr>
<tr>
<td>4. 4,4'-Isopropylidenediphenol</td>
<td>80-05-7</td>
<td>1.0 - 10 %</td>
</tr>
<tr>
<td>5. Formaldehyde, polymer with benzenamine, hydrogenated</td>
<td>135108-88-2</td>
<td>1.0 - 10 %</td>
</tr>
<tr>
<td>6. Tetraethylenepentamine</td>
<td>112-57-2</td>
<td>1.0 - 10 %</td>
</tr>
<tr>
<td>7. 2,4,6-Tris(Dimethylaminomethyl)Phenol</td>
<td>90-72-2</td>
<td>1.0 - 10 %</td>
</tr>
</tbody>
</table>

4. First Aid Measures

Emergency and First Aid Procedures

In Case of Inhalation
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If experiencing respiratory symptoms: Get medical attention immediately.

In Case of Skin Contact
In case of contact, immediately wash skin with soap and copious amounts of water. Remove contaminated clothing and shoes. Get medical attention if irritation develops or persists.

In Case of Eye Contact
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Get medical attention immediately.

In Case of Ingestion
If swallowed, wash out mouth with water provided person is conscious. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Get medical attention immediately.
Signs and Symptoms Of Exposure

Eyes: Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Skin: Can cause severe skin burns. Symptoms may include redness, edema, drying, defatting and cracking of the skin.

Inhalation: Vapors are irritating to the respiratory system, may cause throat pain and cough.

5. Fire Fighting Measures

Flash Pt: > 200.00 F  Method Used: Pensky-Marten Closed Cup
Explosive Limits: LEL: NE  UEL: NE
Autoignition Pt: No data available.

Fire Fighting Instructions

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Flammable Properties and Hazards

Combustible material: may burn but does not ignite readily.

Hazardous Combustion Products

In a fire, product may produce the following: Carbon monoxide, Carbon dioxide, Nitrogen oxides, Ammonia, Aldehydes. Fire may produce irritating, corrosive and/or toxic gases.

Suitable Extinguishing Media

CO2, dry chemical, dry sand, alcohol-resistant foam.

Unsuitable Extinguishing Media

Do not use a direct water stream, which may spread fire.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL.
Absorb with sand or vermiculite and place in closed containers for disposal. Ventilate the area.

Protective Precautions, Protective Equipment and Emergency Procedures

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves. Where splashing is possible, full chemically resistant protective clothing, and boots are required.

Environmental Precautions

Prevent entry into waterways, sewers, basements or confined areas.

7. Handling and Storage

Hazard Label Information:

Avoid contact with eyes.  Do not get on skin and clothing.  Avoid inhalation of vapor or mist. Store in a closed container.

Precautions To Be Taken in Handling

Provide adequate ventilation. Wear all personal protection required in section 8.

Precautions To Be Taken in Storing

Keep container tightly closed in a dry and well-ventilated place. Store away from incompatible material.

Other Precautions

Wash thoroughly after handling.
8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information:

- Neoprene gloves
- Safety glasses, or goggles
- Impervious clothing
- Chemical resistant boots

Respiratory Equipment (Specify Type)

Normally when good engineering controls are used, no respiratory protection is needed. However, if cured product is abraded by sanding or grinding use a NIOSH approved air-purifying respirator. Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

Eye Protection

- Safety glasses, or goggles

Protective Gloves

- Nitrile rubber and Neoprene are recommended

Other Protective Clothing

- Where splashing is possible, full chemically resistant protective clothing, safety glasses or face shield and boots are required.

Engineering Controls (Ventilation etc.)

- Good general ventilation should be sufficient to control airborne levels. Safety shower and eye bath

Work/Hygienic/Maintenance Practices

- Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling

Environmental Exposure Controls

- Avoid runoff into storm sewers and ditches which lead to waterways

9. Physical and Chemical Properties

Physical States: [ ] Gas [X] Liquid [ ] Solid

Melting Point: NE

Boiling Point: NE

Decomposition Temperature: NE

Autoignition Pt: No data.

Flash Pt: > 200.00 F Method Used: Pensky-Marten Closed Cup

Explosive Limits: LEL: NE UEL: NE

Specific Gravity (Water = 1): ~ .9832 - .9892

Density: ~ 8.2 - 8.25 LB/GL

Vapor Pressure (vs. Air or mm Hg): NE
Vapor Density (vs. Air = 1): NE NE
Evaporation Rate: Soluble
Solubility in Water: 0.0 % by weight.
Percent Volatile: NP
VOC / Volume: NP
HAP / Volume: NE

Saturated Vapor Concentration:

Appearance and Odor
Odor: amine-like.
Appearance: Liquid. amber.

10. Stability and Reactivity

Stability: Unstable [ ] Stable [ X ]

Reactivity
Avoid: acids, alkalis, oxidizing agents.

Conditions To Avoid - Instability
Extreme temperatures.

Incompatibility - Materials To Avoid
Avoid strong acids, bases, and oxidizing agents.

Hazardous Decomposition Or Byproducts

Possibility of Hazardous Polymerization: Will occur [ ] Will not occur [ X ]

Conditions To Avoid - Hazardous Reactions
Will not undergo hazardous polymerization in normal storage conditions.

11. Toxicological Information

Toxicological Information
May cause sensitization by skin contact.

Chronic Toxicological Effects
Skin sensitization.

Irritation or Corrosion
Corrosive! Damages skin and eyes.

Symptoms related to Toxicological Characteristics
Skin: Contact with substance may cause severe burns to skin. Symptoms may include redness, edema, drying, defatting and cracking of the skin.
Eyes: Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. Permanent eye damage including blindness could result.
Inhalation: Inhalation of vapors/fumes causes respiratory irritation with throat discomfort, coughing or difficulty breathing.

Hazardous Components (Chemical Name) | CAS # | NTP | IARC | ACGIH | OSHA
--- | --- | --- | --- | --- | ---
1. Phenol, 4-nonyl-, branched | 84852-15-3 | n.a. | n.a. | n.a. | n.a.
2. Diethylenetriamine | 111-40-0 | n.a. | n.a. | n.a. | n.a.
3. Benzenemethanol | 100-51-6 | n.a. | n.a. | n.a. | n.a.
4. 4,4'-Isopropylidenediphenol | 80-05-7 | n.a. | n.a. | n.a. | n.a.
5. Formaldehyde, polymer with benzenamine, hydrogenated | 135108-88-2 | n.a. | n.a. | n.a. | n.a.
Hazardous Components (Chemical Name) | CAS # | NTP | IARC | ACGIH | OSHA
---|---|---|---|---|---
6. Tetraethylenepentamine | 112-57-2 | n.a. | n.a. | n.a. | n.a.
7. 2,4,6-Tris(Dimethylaminomethyl)Phenol | 90-72-2 | n.a. | n.a. | n.a. | n.a.

12. Ecological Information

**General Ecological Information**
Avoid release to the environment. Do not empty into drains. May be hazardous to the environment if released in large quantities.

**Results of PBT and vPvB assessment**
No data available.

**Persistence and Degradability**
Not readily biodegradable.

**Bioaccumulative Potential**
No data available.

**Mobility in Soil**
not reported, unknown.

13. Disposal Considerations

**Waste Disposal Method**
Incinerate or dispose of unused material, residues and containers in a licensed facility in accordance with all applicable local, state and federal regulations. Do not discharge substance/product into sewage system.

14. Transport Information

**Globally Harmonized System of Classification and Labelling**
Skin Sensitization, Category 1A - Warning! May cause an allergic skin reaction
Skin Corrosion/Irritation, Category 1A - Danger! Causes severe skin burns and eye damage
Serious Eye Damage/Eye Irritation, Category 1 - Danger! Causes serious eye damage
Acute Toxicity: Oral, Category 4 - Warning! Harmful if swallowed
Acute Toxicity: Inhalation, Category 4 - Warning! Harmful if inhaled
Acute Toxicity: Skin, Category 4 - Warning! Harmful in contact with skin

**LAND TRANSPORT (US DOT)**

**DOT Proper Shipping Name**
Caustic Alkali Liquid, NOS (Modified Amido Amine)(Nonyl phenol), 8, Packing group III.

**DOT Hazard Class:**
8

**DOT Hazard Label:**
CORROSIVE

**UN/NA Number:**
UN1719

**Packing Group:**
III

**Precautionary Label**
Corrosive! Damages skin and eyes. Avoid skin and eye contact. May cause eye and skin irritation. May cause skin sensitization. Wear protective equipment and clothing. Always read MSDS/SDS before use.

**AIR TRANSPORT (ICAO/IATA)**

**ICAO/IATA Shipping Name**
Caustic Alkali Liquid, NOS (Modified Amido Amine)(Nonyl phenol), 8, Packing group III.
UN Number: 1719
Hazard Class: 8 - CORROSIVE
Packing Group: III

MARINE TRANSPORT (IMDG/IMO)
IMDG/IMO Shipping Name: Caustic Alkali Liquid, NOS (Modified Amido Amine)(Nonyl phenol), 8, Packing group III.
Marine Pollutant(s): Nonylphenol.

UN Number: Hazard 1719
Class: Packing 8 - CORROSIVE
Group: IMDG EMS III
Number: Marine FA,SB
Pollutant: Yes

15. Regulatory Information

Regulatory Information
SARA 302 Extremely Hazardous Substances: None.
SARA 313 Toxic Chemicals: None.
CERCLA Reportable Quantity: None.

16. Other Information

Company Policy or Disclaimer
The information contained in this MSDS is taken from sources believed to be accurate as of the date hereof; however Epoxy Systems, Inc. makes no expressed or implied warranty in respect to the accuracy of the information or the suitability of the recommendations, and assumes no liabilities to any user thereof.

Revision Date: 08/30/2015