1. Product and Company Identification

Product Code: 488-SAFETY-YEL

Product Name: 488 Polyaspartic Coating - Safety Yellow / OP (Part A)

Trade Name: 488 Polyaspartic Coating - Safety Yellow / OP (Part A)

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 (International) +1 (801)629-0667

Intended Use: Industrial floor coatings.

2. Hazards Identification

GHS Classification

<table>
<thead>
<tr>
<th>Category</th>
<th>Key word</th>
<th>GHS hazard phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Corrosion/Irritation, Category 2</td>
<td>Exclamation point</td>
<td>Warning</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation, Category 2B</td>
<td>none</td>
<td>Warning</td>
</tr>
<tr>
<td>Skin Sensitization, Category 1B</td>
<td>Exclamation point</td>
<td>Warning</td>
</tr>
</tbody>
</table>

GHS Hazard Phrases


GHS Precaution Phrases

P281 - Use personal protective equipment as required.
P262 - Do not get in eyes, on skin, or on clothing.
P280 - Wear protective gloves/protective clothing/eye protection.
P261 - Avoid breathing mist/vapors.
P273 - Avoid release to the environment.

GHS Response Phrases

P302+352 - IF ON SKIN: Wash with plenty of soap and water. P362 - Take off contaminated clothing. P332+313 - If skin irritation occurs, get medical advice/attention.
P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+313 - If eye irritation persists, get medical advice/attention.
P304+340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P314 - Get medical attention/advice if you feel unwell.

GHS Storage and Disposal Phrases

P403+235 - Store in cool/well-ventilated place. P404 - Store in a closed container.
Potential Health Effects (Acute and Chronic)
Causes skin and eye irritation. May cause skin sensitization, an allergic reaction, which becomes evident on reexposure to this material.

Inhalation
May cause respiratory irritation.

Skin Contact
Causes skin irritation.

Eye Contact
Causes eye irritation.

Ingestion
May be harmful if swallowed.

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. Aspartic acid, N,N'- (methylenedi-4,1-cyclohexanediyl)bis-, tetraethyl ester</td>
<td>136210-30-5</td>
<td>30 - 50 %</td>
</tr>
<tr>
<td>2. Rutile, tin zinc, potassium-doped</td>
<td>207691-99-4</td>
<td>20 - 35 %</td>
</tr>
<tr>
<td>3. Secondary Diamines</td>
<td>NA</td>
<td>5.0 - 15 %</td>
</tr>
<tr>
<td>4. 1,3,3-Trimethyl-N-(2-methylpropylidene)-5-[(2-methylpropylidene)amino]cyclohexanemethylamine</td>
<td>54914-37-3</td>
<td>1.0 - 10 %</td>
</tr>
<tr>
<td>5. Zeolites other than erionite (clinoptilolite, phillipsite, mordenite, non-fibrous Japanese zeolite,</td>
<td>1318-02-1</td>
<td>1.0 - 10 %</td>
</tr>
<tr>
<td>6. Siloxanes and silicones, di-me, reaction products with silica</td>
<td>67762-90-7</td>
<td>1.0 - 10 %</td>
</tr>
<tr>
<td>7. Propanol, 1(or 2)-(2-methoxymethylethoxy)-, acetate</td>
<td>88917-22-0</td>
<td>1.0 - 5.0 %</td>
</tr>
<tr>
<td>8. Diethyl fumarate</td>
<td>623-91-6</td>
<td>1.0 - 5.0 %</td>
</tr>
</tbody>
</table>

4. First Aid Measures

Emergency and First Aid Procedures
Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use first aid treatment according to the nature of the injury.

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. Call a physician.
In Case of Ingestion
Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

Signs and Symptoms Of Exposure
Moderate irritation effect.

5. Fire Fighting Measures

<table>
<thead>
<tr>
<th>Flash Pt:</th>
<th>&gt; 200.00 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosive Limits:</td>
<td>LEL: NE UEL: NE</td>
</tr>
<tr>
<td>Autoignition Pt:</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

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

Flammable Properties and Hazards
Product is not considered a fire hazard. Closed containers may rupture (due to build up in pressure) when exposed to extreme heat.

Hazardous Combustion Products
In a fire, product may produce the following: Carbon monoxide, Carbon dioxide, and Amines.

Suitable Extinguishing Media
Dry chemical, CO2, water spray or regular 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 skin and 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. Do not breathe vapor. Do not get in eyes, on skin or on clothing.

Precautions To Be Taken in Storing
Keep container tightly closed in a dry and well-ventilated place.

Other Precautions
Wash thoroughly after handling.

8. Exposure Controls/Personal Protection

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspartic acid, N,N’-(methylenedi-4,1-cyclohexanediyl)bis-, tetraethyl ester</td>
<td>136210-30-5</td>
<td>No data.</td>
<td>No data.</td>
<td>No data.</td>
</tr>
</tbody>
</table>
Hazardous Components (Chemical Name) | CAS # | OSHA PEL | ACGIH TLV | Other Limits
--- | --- | --- | --- | ---
4. 1,3,3-Trimethyl-N-(2-methylpropyldiene)-5-[(2- methylpropyldiene)amino]cyclohexanemethyleneamine | 54914-37-3 | No data. | No data. | No data.
5. Zeolites other than erionite (clinoptilolite, philippsite, mordenite, non-fibrous Japanese zeolite, | 1318-02-1 | No data. | No data. | No data.
6. Siloxanes and silicones, di-me, reaction products with silica | 67762-90-7 | No data. | No data. | No data.
7. Propanol, 1(or 2)-(2-methoxymethylthoxy)-, acetate | 88917-22-0 | No data. | No data. | No data.
8. Diethyl fumarate | 623-91-6 | No data. | No data. | No data.

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

<table>
<thead>
<tr>
<th>Physical States:</th>
<th>Gas</th>
<th>Liquid</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting Point:</td>
<td>NE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>NE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decomposition Temperature:</td>
<td>NE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoignition Pt:</td>
<td>No data.</td>
<td></td>
<td></td>
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<tr>
<td>Flash Pt:</td>
<td>&gt; 200.00 C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosive Limits:</td>
<td>LEL: NE</td>
<td>UEL: NE</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity (Water = 1):</td>
<td>~ 1.363</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Density: ~ 11.37 LB/GL

Vapor Pressure (vs. Air or mm Hg): NE

Vapor Density (vs. Air = 1): NE

Evaporation Rate: NE

Solubility in Water: NP

Solubility Notes
Practically insoluble.

Percent Volatile: < 5.0 % by weight.

VOC / Volume: <= 36.000 G/L

HAP / Volume: NP

Saturated Vapor Concentration: NE

Appearance and Odor
Odor: Mild.
Appearance: Bright, yellow.

10. Stability and Reactivity

Stability: Unstable [ ] Stable [ X ]

Conditions To Avoid - Instability
Extreme temperatures.

Incompatibility - Materials To Avoid
Oxidizing agents, Acids, Isocyanates.

Hazardous Decomposition Or Byproducts
In a fire, product may produce the following: Carbon monoxide, Carbon dioxide, and Amines.

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

Chronic Toxicological Effects
No data available.

Irritation or Corrosion
Skin irritation. Irritating to eyes.

Hazardous Components (Chemical Name) | CAS # | NTP | IARC | ACGIH | OSHA
---|---|---|---|---|---
1. Aspartic acid, N,N'-(methylenedi-4,1-cyclohexanediyl)bis-, tetraethyl ester | 136210-30-5 | n.a. | n.a. | n.a. | n.a. |
2. Rutile, tin zinc, potassium-doped | 207691-99-4 | n.a. | n.a. | n.a. | n.a. |
3. Secondary Diamines | NA | n.a. | n.a. | n.a. | n.a. |
4. 1,3,3-Trimethyl-N-(2-methylpropyldiene)-5-[(2-methylpropyldiene)amino]cyclohexanemethyamine | 54914-37-3 | n.a. | n.a. | n.a. | n.a. |
5. Zeolites other than erionite (clinoptilolite, phillipsite, mordenite, non-fibrous Japanese zeolite, | 1318-02-1 | n.a. | 3 | n.a. | n.a. |
6. Siloxanes and silicones, di-me, reaction products with silica | 67762-90-7 | n.a. | n.a. | n.a. | n.a. |
7. Propanol, 1(or 2)-[2-methoxymethyloxy]-, acetate | 88917-22-0 | n.a. | n.a. | n.a. | n.a. |
Hazardous Components (Chemical Name) | CAS # | NTP | IARC | ACGIH | OSHA
--- | --- | --- | --- | --- | ---
8. Diethyl fumarate | 623-91-6 | n.a. | n.a. | n.a. | n.a.

12. Ecological Information

**General Ecological Information**
Avoid release to the environment.

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

**Persistence and Degradability**
No data available.

**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

**LAND TRANSPORT (US DOT)**
**DOT Proper Shipping Name**
Not Regulated.

**AIR TRANSPORT (ICAO/IATA)**
**ICAO/IATA Shipping Name**
Not Regulated.

**MARINE TRANSPORT (IMDG/IMO)**
**IMDG/IMO Shipping Name**
Not Regulated.

Marine Pollutant:
No

15. Regulatory Information

**US EPA SARA Title III**

<table>
<thead>
<tr>
<th>Hazardous Components (Chemical Name)</th>
<th>CAS #</th>
<th>Sec.302 (EHS)</th>
<th>Sec.304 RQ</th>
<th>Sec.313 (TRI)</th>
<th>Sec.110</th>
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<td>2. Rutile, tin zinc, potassium-doped</td>
<td>207691-99-4</td>
<td>No</td>
<td>No</td>
<td>Yes-Cat. N982</td>
<td>No</td>
</tr>
<tr>
<td>3. Secondary Diamines</td>
<td>NA</td>
<td>No</td>
<td>No</td>
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**Regulatory Information**
SARA Section 311/312: Acute Health Hazard.
16. Other Information

CA=CIRCA  NA=NOT AVAILABLE  NE=NOT ESTABLISHED  NR=NOT REGULATED  NP= NOT APPLICABLE  PR=PROPRIETARY  TS=TRADE SECRET  ?=UNKNOWN.

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: 10/25/2015