1. Identification of the Substance/Mixture and the Company/Undertaking

1.1 Product Identifier

Product Name: Epoxy.com #664/#665 Vinyl Ester Binder/Coating Hardener for PART B for #661/663

Revision Date: 07/28/2020
Supercedes Date: 1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Component of multicomponent industrial coatings - Industrial use.

1.3 Details of the supplier of the safety data sheet

Manufacturer: Epoxy Systems, Inc.
20774 W Pennsylvania Ave.
Dunnellon, FL 34431
USA

1.4 Contact person: Technical Support Department
Telephone: 352-489-1665
Emergency telephone number (PERS): 1-800-633-8253 (US); 1-801-629-0687 (International)

2. Hazard Identification

2.1 Classification of the substance or mixture

Acute Toxicity, Oral, category 4
Organic Peroxide, categories C, D
Skin Corrosion, category 1

2.2 Label elements

Symbol(s) of Product

Signal Word
danger

Named Chemicals on Label
MEK PEROXIDES, HYDROGEN PEROXIDE
HAZARD STATEMENTS

Organic Peroxide, categories C, D  H242-CD  Heating may cause a fire.
Acute Toxicity, Oral, category 4  H302  Harmful if swallowed.
Skin Corrosion, category 1  H314-1  Causes severe skin burns and eye damage.

PRECAUTION PHRASES

P210  Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P234  Keep only in original container.
P260  Do not breathe dust/fume/gas/mist/vapours/spray.
P264  Wash hands thoroughly after handling.
P270  Do not eat, drink or smoke when using this product.
P280  Wear protective gloves/protective clothing/eye protection/ face protection.
P303+361+353  IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P403+235  Store in a well-ventilated place. Keep cool.

2.3 Other hazards
No Information

Results of PBT and vPvB assessment:
The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

3. Composition/Information On Ingredients

3.2 Mixtures

Hazardous Ingredients

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Chemical Name</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1338-23-4</td>
<td>MEK PEROXIDES</td>
<td>25-50</td>
</tr>
<tr>
<td>TRADE</td>
<td>PLASTICIZER</td>
<td>25-50</td>
</tr>
<tr>
<td>SECRET</td>
<td>HYDROGEN PEROXIDE</td>
<td>0.1-1.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>GHS Symbols</th>
<th>GHS Hazard Statements</th>
<th>M-Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1338-23-4</td>
<td>GHS05-GHS07</td>
<td>H302-312-314-332</td>
<td>0</td>
</tr>
<tr>
<td>TRADE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SECRET</td>
<td>GHS05-GHS07</td>
<td>H302-312-314-332</td>
<td>0</td>
</tr>
</tbody>
</table>

Additional Information: The text for GHS Hazard Statements shown above (if any) is given in Section 16.

4. First-aid Measures

4.1 Description of First Aid Measures

AFTER INHALATION: Give oxygen or artificial respiration if needed. Remove person to fresh air. If signs/symptoms continue, get medical attention.

AFTER SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation persists, call a physician.

AFTER EYE CONTACT: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

AFTER INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If swallowed, call a poison control centre or doctor immediately. Obtain medical attention. If patient is fully conscious, rinse mouth with water. Give water to drink. Drink water in small sips (Diluting effect). Never give anything by mouth to an unconscious person. Vomiting may cause aspiration into the lungs causing chemical pneumonia. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Prolonged or repeated contact may dry skin and cause irritation. Irritating to eyes and skin. May be harmful if swallowed.
4.3 **Indication of any immediate medical attention and special treatment needed**

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

When symptoms persist or in all cases of doubt seek medical advice.

5. **Fire-fighting Measures**

5.1 **Extinguishing Media:**

Carbon Dioxide, Dry Chemical, Foam, Water Fog

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** None known. Contact with incompatible materials or exposure to temperatures exceeding the SADT may result in a self accelerating decomposition reaction with release of flammable vapors which may autoignite.

All organic peroxides should be considered highly combustible. Once ignited, most organic peroxides burn vigorously. The flashpoint of an organic peroxide is only meaningful when it is below the temperature at which the organic peroxide begins to decompose due to its thermal instability. Normally, no decomposition occurs until the temperature is well above ambient. See storage conditions.

5.2 **Special hazards arising from the substance or mixture**

No Information

5.3 **Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus. Fight fire with normal precautions from a reasonable distance. Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure.

6. **Accidental Release Measures**

6.1 **Personal precautions, protective equipment and emergency procedures**

For personal protection see section 8. Ensure adequate ventilation. Ensure adequate ventilation. Evacuate personnel to safe areas. Remove all sources of ignition.

6.2 **Environmental precautions**

Do not allow material to contaminate ground water system. Prevent product from entering drains.

6.3 **Methods and material for containment and cleaning up**

Prevent further leakage or spillage if safe to do so. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

6.4 **Reference to other sections**

Please refer to disposal requirements or country specific disposal requirements for this material. See Section 13 for further information.

7. **Handling and Storage**

7.1 **Precautions for safe handling**

**INSTRUCTIONS FOR SAFE HANDLING:** Keep containers dry and tightly closed to avoid moisture absorption and contamination. Prepare the working solution as given on the label(s) and/or the user instructions. Protect from contamination. Do not breathe vapours or spray mist. Keep away from heat and sources of ignition. Ensure all equipment is electrically grounded before beginning transfer operations. Use only in an area containing explosion proof equipment. Use only with adequate ventilation. Wash thoroughly after handling. Do not taste or swallow. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation/personal protection. Organic peroxide. Temperature controlled. Hazardous decomposition may occur. Do not re-use empty containers. Avoid contact with skin, eyes and clothing. Keep container closed when not in use. Keep containers tightly closed to prevent contamination. Avoid contact with eyes, skin, and clothing. Do not eat, drink, or smoke while handling. Wear recommended personal protection equipment. Remove contaminated clothing and wash before reuse. Use spark-proof tools and explosion-proof equipment. Store containers in a well-ventilated area. Open them cautiously, in case they may be under slight pressure. Have good ventilation and suitable protective
equipment in areas where containers will be opened. Keep away from heat, sparks and flame. Do not expose to direct sunlight.

PROTECTION AND HYGIENE MEASURES: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke.

7.2 Conditions for safe storage, including any incompatibilities

CONDITIONS TO AVOID: Heat, sparks and open flames.
STORAGE CONDITIONS: Maximum storage temperature: 100°F (38°C)Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Store below 100°F (38°C) to maintain stability and active oxygen content. Detached storage is preferred. Store out of direct sunlight in a cool, well-ventilated place. Store away from combustibles and incompatible materials. Refer also to National Fire Protection Agency (NFPA) Code 432, Code for the Storage of Organic Peroxide Formulations.

7.3 Specific end use(s)

No specific advice for end use available.

8. Exposure Controls/Personal Protection

8.1 Control parameters

Ingredients with Occupational Exposure Limits
(US)

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>ACGIH TLV-TWA</th>
<th>ACGIH TLV-STEL</th>
<th>OSHA PEL-TWA</th>
<th>OSHA PEL-CEILING</th>
<th>OEL Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEK PEROXIDES</td>
<td>25-50</td>
<td>N/E</td>
<td>N/E</td>
<td>N/E</td>
<td>5 MGM3</td>
<td></td>
</tr>
<tr>
<td>PLASTICIZER</td>
<td>25-50</td>
<td>N/E</td>
<td>N/E</td>
<td>N/E</td>
<td>N/E</td>
<td></td>
</tr>
<tr>
<td>HYDROGEN PEROXIDE</td>
<td>0.1-1.0</td>
<td>1.0 PPM</td>
<td>N/E</td>
<td>1.4 MGM3</td>
<td>N/E</td>
<td></td>
</tr>
</tbody>
</table>

FURTHER INFORMATION: Refer to the regulatory exposure limits for the workforce enforced in each country.

8.2 Exposure controls

Personal Protection

RESPIRATORY PROTECTION: In order to avoid inhalation of spray-mist and sanding dust, all spraying and sanding must be done wearing adequate respirator. Use only with ventilation to keep levels below exposure guidelines reported in this document. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use State or federally approved supplied air respirator. For silica containing coatings in a liquid state, and/or if no exposure limits are established above, air-supplied respirators are generally not required.

EYE PROTECTION: Safety glasses with side-shields. Wear chemical goggles and faceshield (if not wearing a full facepiece respirator). Wear a synthetic apron or coveralls to prevent contact with skin or clothing.

HAND PROTECTION: Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Impervious gloves. Request information on glove permeation properties from the glove supplier.

OTHER PROTECTIVE EQUIPMENT: Ensure that eyewash stations and safety showers are close to the workstation location. Lightweight protective clothing

ENGINEERING CONTROLS: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas.

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance: Colorless To Light Yellow

Physical State: Liquid

Odor: Irritating

Odor threshold: N/D
10. Stability and Reactivity

10.1 Reactivity
No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability
Stable under normal conditions. This product is stable only when stored at or below the recommended maximum temperature. (see Section 7.)

SADT - Self Accelerating Decomposition Temperature. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction. This reaction will generate flammable vapors which may autoignite. The length of time to generate a decomposition reaction, after the SADT has been reached or exceeded, is dependent upon how much the SADT has been exceeded and the length of time needed for the reaction exotherm (heat spike from increasing decomposition rate) to initiate a rapid decomposition reaction. Typically, SADT is inversely proportional to package size. Larger packages will have a lower SADT due to smaller ratio to heat transfer area to volume of product.

SADT - 158F (70C). 40# Package.

10.3 Possibility of hazardous reactions
Hazardous polymerisation does not occur.

10.4 Conditions to avoid
Heat, sparks and open flames.

10.5 Incompatible materials
Reacts violently in contact with acids, amines, driers, polymerisation accelerators and easily oxidized materials. Strong oxidizing agents. Contact with foreign materials, such as strong acids, alkalis, oxiders, reducing agents, amines, vermiculite, zinc, aluminum iron, rust, copper, transition metal salt ions, and reaction accelerators may result in a rapid and violent reaction.

10.6 Hazardous decomposition products
Carbon dioxide (CO2), carbon monoxide (CO), oxides of nitrogen (NOx), dense black smoke. SADT- SELF-ACCELERATING DECOMPOSITION TEMPERATURE. Lowest temperature at which the tested package size will undergo a self-accelerating decomposition reaction. This reaction will generate flammable vapors which may autoignite. The length of time to generate a decomposition reaction, after the SADT has been reached or exceeded, is dependent upon how much the SADT has been exceeded and the length of time needed for the reaction exotherm to initiate a rapid decomposition reaction. Typically, SADT is inversely proportional to package size. Larger packages will have a lower SADT due to smaller ratio of heat transfer area to volume of product. Temperatures at or above the SADT can result in the release of hazardous decomposition products which are flammable and may autoignite.

11. Toxicological Information

11.1 Information on toxicological effects
Acute Toxicity:
Oral LD50: N/D
Inhalation LC50: N/D
Irritation: Unknown
Corrosivity: Unknown
Sensitization: Unknown
Repeated dose toxicity: Unknown
Carcinogenicity: Unknown
Mutagenicity: Unknown
Toxicity for reproduction: Unknown

If no information is available above under Acute Toxicity then the acute effects of this product have not been tested. Data on individual components are tabulated below:

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Vapor LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>1338-23-4</td>
<td>MEK PEROXIDES</td>
<td>484 mg/kg, oral, rat</td>
<td>1560 mg/kg</td>
<td>17 mg/l / 4h, Inh, mouse</td>
</tr>
<tr>
<td>TRADE SECRET</td>
<td>PLASTICIZER</td>
<td>NOT AVAILABLE</td>
<td></td>
<td>NOT AVAILABLE</td>
</tr>
<tr>
<td>7722-84-1</td>
<td>HYDROGEN PEROXIDE</td>
<td>805 mg/kg, oral, rat</td>
<td>2000 mg/kg, (Rabbit)</td>
<td>2000 mg/m3 inh, rat</td>
</tr>
</tbody>
</table>

Additional Information:
No Information
12. Ecological Information

12.1 Toxicity:

EC50 48hr (Daphnia): Unknown
IC50 72hr Unknown
(Algae): LC50 Unknown

12.2 Persistence and degradability: Unknown

12.3 Bioaccumulative potential: Unknown

12.4 Mobility in soil: Unknown

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT/VPvB in accordance with Annex XIII.

12.6 Other adverse effects: Unknown

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>Chemical Name</th>
<th>EC50 48hr</th>
<th>IC50 72hr</th>
<th>LC50 96hr</th>
</tr>
</thead>
<tbody>
<tr>
<td>1338-23-4</td>
<td>MEK PEROXIDES</td>
<td>39 mg/l</td>
<td>No information</td>
<td>No information</td>
</tr>
<tr>
<td>TRADE SECRET</td>
<td>PLASTICIZER</td>
<td>No information</td>
<td>No information</td>
<td>No information</td>
</tr>
<tr>
<td>7722-84-1</td>
<td>HYDROGEN PEROXIDE</td>
<td>18 - 32 mg/l (Daphnia Magna)</td>
<td>No information</td>
<td>16.4 mg/L (Pimephales promelas)</td>
</tr>
</tbody>
</table>

13. Disposal Considerations

13.1 WASTE TREATMENT METHODS: Do not burn, or use a cutting torch on, the empty drum. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

14.1 UN number UN 3105

14.2 UN proper shipping name Organic Peroxide Type D Liquid
Technical name (Methyl Ethyl Ketone Peroxides, <=45%)

14.3 Transport hazard class(es) 5.2
Subsidiary shipping hazard N/A

14.4 Packing group II

14.5 Environmental hazards Unknown

14.6 Special precautions for user Unknown
F-J, S-R

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code EmS-No.: Unknown

15. Regulatory Information

15.1 Safety, health and environmental regulations/legislation for the substance or mixture:
U.S. Federal Regulations: As follows -

**CERCLA - Sara Hazard Category**

This product has been reviewed according to the EPA ‘Hazard Categories’ promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Fire Hazard, Reactive Hazard, Acute Health Hazard, Chronic Health Hazard

**Sara Section 313:**

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEK PEROXIDES</td>
<td>1338-23-4</td>
</tr>
</tbody>
</table>

**Toxic Substances Control Act:**

All components of this product are either listed on the TSCA Inventory or are exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(b) components exist in this product.

**U.S. State Regulations: As follows -**

**New Jersey Right-to-Know:**

The following materials are non-hazardous, but are among the top five components in this product.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIMETHYLPHTHALATE</td>
<td>131-11-3</td>
</tr>
</tbody>
</table>

**Pennsylvania Right-To-Know**

The following non-hazardous ingredients are present in the product at greater than 3%.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIMETHYLPHTHALATE</td>
<td>131-11-3</td>
</tr>
</tbody>
</table>

**California Proposition 65:**

Warning: The following ingredients present in the product are known to the state of California to cause Cancer:

No Proposition 65 Carcinogens exist in this product.

Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards.

No Proposition 65 Reproductive Toxins exist in this product.

**International Regulations: As follows -**

* Canadian DSL:

No Information

15.2 **Chemical Safety Assessment:**

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

**16. Other Information**
Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H332 Harmful if inhaled.

Reasons for revision

No Information

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.