SECTION 1: Identification

1.1. Product identifier
Product name: VB 225™ FS Part A (Resin)
Product code: Not available.

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: Epoxy binder.

1.3. Details of the supplier of the safety data sheet
Penetron Specialty Products Inc.
45 Research Way, Suite 203
East Setauket, New York 11733 - USA
+1 (631) 941-9700
info@penetronsp.com - penetronsp.com

1.4. Emergency telephone number
Emergency number: CHEMTREC: US and Canada: 1-800-424-9300; International +1 703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
GHS-US classification
Skin Irritation 2
Eye Irritation 2A
Skin Sensitization 1

2.2. Label elements
GHS-US labelling
Hazard pictograms (GHS-US):

Signal word (GHS-US): Warning
Hazard statements (GHS-US): Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction.
Precautionary statements (GHS-US): Wash hands thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear protective gloves/eye protection/face protection. Contaminated work clothing must not be allowed out of the workplace. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Other hazards
No additional information available.

2.4. Unknown acute toxicity (GHS-US)
Not applicable.

SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable.

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bisphenol A-epichlorohydrin polymer</td>
<td>(CAS No) 25068-38-6</td>
<td>50 - 100</td>
</tr>
<tr>
<td>Phenol, 2,2’-methylenebis-, polymer with (chloromethyl)oxirane</td>
<td>(CAS No) 55492-52-9</td>
<td>25 - 50</td>
</tr>
<tr>
<td>Alkyl (C12-14) glycidyl ether</td>
<td>(CAS No) 68609-97-2</td>
<td>10 - 25</td>
</tr>
</tbody>
</table>

* The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.
SECTION 4: First aid measures

4.1. Description of first-aid measures
First-aid measures after inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
First-aid measures after skin contact: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.
First-aid measures after eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. If irritation persists, get medical attention.
First-aid measures after ingestion: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed
Symptoms/injuries after inhalation: May cause respiratory tract irritation.
Symptoms/injuries after skin contact: Causes skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. May cause sensitization by skin contact.
Symptoms/injuries after eye contact: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/injuries after ingestion: May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

4.3. Indication of any immediate medical attention and special treatment needed
Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media
Unsuitable extinguishing media: Full water jet.

5.2. Special hazards arising from the substance or mixture
Fire hazard: Products of combustion may include, and are not limited to: oxides of carbon and toxic gases.

5.3. Advice for firefighters
Protection during firefighting: Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
General measures: Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2. Methods and material for containment and cleaning up
For containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up: Scoop up material and place in a disposal container. Clean contaminated surfaces thoroughly. Provide ventilation.

6.3. Reference to other sections
See Section 8 for further information on protective clothing and equipment and Section 13 for advice on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Precautions for safe handling: Avoid contact with skin and eyes. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke.

Hygiene measures: Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2. Conditions for safe storage, including any incompatibilities
Storage conditions: Keep out of the reach of children. Keep container tightly closed. Store in original container. Keep away from food, drink and animal feed.

7.3. Specific end use(s)
Not available.
SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Bisphenol A-epichlorhydrin polymer (25068-38-6) | ACGIH | Not applicable |
| Phenol, 2,2'-methylenebis-, polymer with (chloromethyl)oxirane (55492-52-9) | ACGIH | Not applicable |
| Alkyl (C12-14) glycidyl ether (68609-97-2) | ACGIH | Not applicable |

8.2. Exposure controls

Appropriate engineering controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Hand protection: Protective gloves made of rubber or PVC.

Eye protection: Wear safety glasses with side shields or goggles.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls: Maintain levels below Community environmental protection thresholds.

Other information: Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid
Appearance: Yellowish fluid
Color: Yellow
Odor: Weak, characteristic
Odor threshold: No data available
pH: No data available
Melting point: No data available
Freezing point: No data available
Boiling point: > 392 °F (> 200 °C)
Flash point: > 302 °F (> 150 °C)
Relative evaporation rate (butyl acetate=1): No data available
Flammability (solid, gas): Not flammable
Explosion limits: No data available
Explosive properties: No data available
Oxidizing properties: No data available
Vapor pressure: No data available
Relative density: 1.1 g/cm³ @ 73.4 °F (23 °C)
Relative vapor density at 20 °C: No data available
Solubility: Not miscible or difficult to mix
Partition coefficient: n-octanol/water: No data available
Auto-ignition temperature: No data available
Decomposition temperature: No data available
Viscosity: No data available
Viscosity, kinematic: No data available
Viscosity, dynamic: 950 mPas @ 77 °F (25 °C)
9.2. Other information
No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity
No dangerous reaction known under conditions of normal use.

10.2. Chemical stability
Stable under normal storage conditions.

10.3. Possibility of hazardous reactions
Reacts with strong oxidizing agents, alkalis, amines and acids.

10.4. Conditions to avoid
Heat. Incompatible materials.

10.5. Incompatible materials

10.6. Hazardous decomposition products
May include, and are not limited to: oxides of carbon and toxic gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity: Not classified

<table>
<thead>
<tr>
<th>Substance</th>
<th>LD50 oral rat</th>
<th>LD50 dermal rabbit</th>
<th>LC50 inhalation rat</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VB 225™ FS Part A (Resin)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 2000 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 2000 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50 inhalation rat</td>
<td>No data available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bisphenol A-epichlorohydryn polymer (25068-38-6)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>11400 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 2000 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Phenol, 2,2’-methylenebis, polymer with (chloromethyl)oxirane (55492-52-9)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 5000 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Alkyl (C12-14) glycidyl ether (68609-97-2)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 oral rat</td>
<td>&gt; 5000 mg/kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50 dermal rabbit</td>
<td>&gt; 4500 mg/kg</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/irritation: Causes serious eye irritation.
Respiratory or skin sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.
Reproductive toxicity: Based on available data, the classification criteria are not met.
Specific target organ toxicity (single exposure): Based on available data, the classification criteria are not met.
Specific target organ toxicity (repeated exposure): Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation: May cause respiratory tract irritation.
Symptoms/injuries after skin contact: Causes skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. May cause sensitization by skin contact.
Symptoms/injuries after eye contact: Causes serious eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.
Symptoms/injuries after ingestion: May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: Toxic to aquatic life with long lasting effects.
12.2. Persistence and degradability

<table>
<thead>
<tr>
<th>VB 225™ FS Part A (Resin)</th>
<th>Persistence and degradability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not established.</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

<table>
<thead>
<tr>
<th>VB 225™ FS Part A (Resin)</th>
<th>Bioaccumulative potential</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not established.</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

Effect on the global warming: No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations: This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimized wherever possible.

SECTION 14: Transport information

14.1 DOT

Non-regulated material

14.2 ADR

UN Number: UN3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
Transport hazard class(es): 9 (M6) Miscellaneous dangerous substances and articles
Label 9

Packing group: III
Marine pollutant: Yes

14.3 IMDG

UN Number: UN3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
MARINE POLLUTANT
Transport hazard class(es): 9 Miscellaneous dangerous substances and articles
Label 9

Packing group: III
Marine pollutant: Yes

14.4 IATA

UN Number: UN3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)
Transport hazard class(es): 9 Miscellaneous dangerous substances and articles
Label 9

Packing group: III
14.5. Additional information

Other information
No supplementary information available.

Special transport precautions
Do not handle until all safety precautions have been read and understood.

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

Alkyl (C12-14) glycidyl ether (68609-97-2)

<table>
<thead>
<tr>
<th>EPA TSCA Regulatory Flag</th>
<th>T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.</th>
</tr>
</thead>
</table>

15.2. US State regulations

<table>
<thead>
<tr>
<th>VB 225™ FS Part A (Resin)</th>
<th>This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.</th>
</tr>
</thead>
</table>

SECTION 16: Other information

Date of issue
02/25/2013

Revision date
11/02/2016

Other information
None.

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user’s responsibility to satisfy oneself as to the suitability and completeness of this information for the user’s own particular use.
SECTION 1: Identification

1.1. Product identifier
Product name: VB 225™ FS Part B (Hardener)
Product code: Not available.

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture: Epoxy resin hardening agent.

1.3. Details of the supplier of the safety data sheet
Penetron Specialty Products Inc.
45 Research Way, Suite 203
East Setauket, New York 11733 - USA
+1 (631) 941-9700
info@penetronsp.com - penetronsp.com

1.4. Emergency telephone number
Emergency number: CHEMTREC: US and Canada: 1-800-424-9300; International +1 703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
GHS-US classification
Acute toxicity - Oral 4; Dermal 4; Inhalation 3
Skin corrosion/skin irritation 2
Serious eye damage/eye irritation 1
Reproductive toxicity 2

2.2. Label elements
GHS-US labelling
Hazard pictograms (GHS-US):

<table>
<thead>
<tr>
<th>Hazard Pictogram</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHS05</td>
<td>Danger</td>
</tr>
<tr>
<td>GHS06</td>
<td>Harmful if swallowed. Harmful in contact with skin. Toxic if inhaled. Causes skin irritation.</td>
</tr>
<tr>
<td>GHS07</td>
<td>Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Response: If exposed or concerned: Get medical advice/attention. Specific treatment (see supplemental first aid instructions on this label). Eyes - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Inhalation - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician. Ingestion - IF SWALLOWED: Call a POISON CENTER or doctor/physician. Ingestion - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Inhalation - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician. Ingestion - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Storage - Store locked up. Store in a well-ventilated place. Keep container tightly closed. Disposal - Dispose of contents/container to an approved waste disposal plant.</td>
</tr>
<tr>
<td>GHS08</td>
<td>Causes serious eye damage. Suspected of damaging fertility or the unborn child.</td>
</tr>
</tbody>
</table>

Signal word (GHS-US): Danger
Hazard statements (GHS-US): Harmful if swallowed. Harmful in contact with skin. Toxic if inhaled. Causes skin irritation.
Precautionary statements (GHS-US): Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.
Response: If exposed or concerned: Get medical advice/attention. Specific treatment (see supplemental first aid instructions on this label). Eyes - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Inhalation - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician. Ingestion - IF SWALLOWED: Call a POISON CENTER or doctor/physician. Ingestion - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Inhalation - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician. Ingestion - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Storage - Store locked up. Store in a well-ventilated place. Keep container tightly closed. Disposal - Dispose of contents/container to an approved waste disposal plant.

2.3. Other hazards
Hazards Not Otherwise Classified (HNOC): N/A

2.4. Unknown acute toxicity (GHS-US)
25% unknown acute toxicity.
Other information: Harmful to aquatic life with long lasting effects. Toxic to aquatic life.
SECTION 3: Composition/information on ingredients

3.1. Substance
Not applicable.

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product identifier</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>p-tert-Butyl phenol</td>
<td>(CAS No) 98-54-4</td>
<td>25 - 50</td>
</tr>
<tr>
<td>m-Xylene-alpha., alpha.'-diamine</td>
<td>(CAS No) 1477-55-0</td>
<td>25 - 50</td>
</tr>
</tbody>
</table>

* The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen.

First-aid measures after skin contact: In case of contact, wash off immediately with soap and plenty of water for at least 15 minutes. If symptoms persist, call a physician.

First-aid measures after eye contact: In case of contact, rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area. Seek immediate medical attention/advice.

First-aid measures after ingestion: If swallowed, rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation: Harmful if inhaled. Causes severe damage to the respiratory tract. Coughing and/or wheezing.

Symptoms/injuries after skin contact: May cause skin irritation, may cause burning sensation. Prolonged contact may cause redness and irritation.

Symptoms/injuries after eye contact: Causes serious eye damage, severely irritating to eyes. May cause irreversible damage to the eyes. May cause burns.

Symptoms/injuries after ingestion: May be harmful if swallowed. May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. May cause nausea, vomiting and diarrhea.

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Dry chemical, carbon dioxide, water spray.

Unsuitable extinguishing media: CAUTION: Use of water spray when fighting fire may be inefficient.

5.2. Special hazards arising from the substance or mixture

Fire hazard: When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Runoff may pollute waterways. Substances may be transported in a molten form.

Uniform Fire Code: Irritant: Liquid
                     Toxic: Liquid
                     Combustible Liquid: III-B

5.3. Advice for firefighters

Protection during firefighting: Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Use special care to avoid static electric charges. Eliminate sources of ignition. Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. DO NOT GET WATER INSIDE CONTAINERS.
6.2. Methods and material for containment and cleaning up

For containment:
- Contain and/or absorb spill with inert material (e.g., sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up:
- Scoop up material and place in a properly labelled disposal container. Clean contaminated surfaces thoroughly. Provide ventilation. Soak up with inert absorbent materials.

6.3. Reference to other sections

See Section 8 for further information on protective clothing and equipment and Section 13 for advice on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling:
- Handle in accordance with good industrial hygiene and safety practice. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes, and clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear suitable respiratory equipment. Do not breathe vapor or mist. Use only with adequate ventilation and in closed systems.

Hygiene measures:
- Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions:
- Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up.
- Keep out of the reach of children. Protect from moisture. Store away from other materials. Store away from sources of ignition.

Incompatible Products:

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>ACGIH</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>m-Xylene-.alpha.,.alpha.'-diamine (1477-55-0)</td>
<td>S* Ceiling: 0.1 mg/m³ (vacated)</td>
<td>S* Ceiling: 0.1 mg/m³ (vacated)</td>
</tr>
<tr>
<td>NIOSH</td>
<td>Ceiling: 0.1 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

Other exposure guidelines: Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F. 2d 982 (11th Cir., 1992)

8.2. Exposure controls

Appropriate engineering controls:
- Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Hand protection:
- Protective gloves made of rubber or PVC.

Eye protection:
- Wear approved eye protection (properly fitted dust- or splash-proof chemical safety goggles) and face protection (face shield).

Skin and body protection:
- Wear suitable protective clothing.

Respiratory protection:
- In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls:
- Maintain levels below Community environmental protection thresholds.

Other information:
- Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear to light yellow fluid</td>
</tr>
<tr>
<td>Color</td>
<td>Yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Amine</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>11</td>
</tr>
<tr>
<td>Melting point</td>
<td>No data available</td>
</tr>
</tbody>
</table>
9.2. Other information
No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity
No dangerous reaction known under conditions of normal use.

10.2. Chemical stability
Stable under normal storage conditions.

10.3. Possibility of hazardous reactions
No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

10.5. Incompatible materials

10.6. Hazardous decomposition products
May include, and are not limited to: oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Harmful if inhaled.

**p-tert-Butyl phenol (98-54-4)**
- LD50 oral rat : 3250 µL/kg
- LD50 dermal rabbit : 2318 mg/kg

**m-Xylene-.alpha., .alpha. '-diamine (1477-55-0)**
- LD50 oral rat : 660 mg/kg
- LD50 dermal rabbit : 2 g/kg
- LC50 inhalation rat : 700 ppm 1 hour

Skin corrosion/irritation : Causes skin irritation. Prolonged contact may cause redness and irritation. May be absorbed through the skin in harmful amounts. Harmful in contact with skin. Erythema (skin redness).

Serious eye damage/irritation : Causes serious eye damage. Severely irritating to eyes. May cause irreversible damage to eyes.

Respiratory or skin sensitization : May cause irritation of respiratory tract. Toxic by inhalation.

Germ cell mutagenicity : Based on available data, the classification criteria are not met.

Carcinogenicity : Based on available data, the classification criteria are not met.
Reproductive toxicity: Contains a known or suspected reproductive toxin.

Specific target organ toxicity (single exposure): Based on available data, the classification criteria are not met.

Specific target organ toxicity (repeated exposure): Based on available data, the classification criteria are not met.

Aspiration hazard: May cause irritation of respiratory tract. Toxic by inhalation. Coughing and/or wheezing. Difficulty in breathing.

Symptoms/injuries after skin contact: Causes skin irritation. Prolonged contact may cause redness and irritation. May be absorbed through the skin in harmful amounts. Harmful in contact with skin. Erythema (skin redness).

Symptoms/injuries after eye contact: Causes serious eye damage. Severely irritating to eyes. May cause irreversible damage to eyes. May cause blindness; burning.

Symptoms/injuries after ingestion: Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: Toxic to aquatic organisms. Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

| p-tert-Butyl phenol (98-54-4) |
|-----------------------------|-----------------|
| Toxicity to Algae           | 72h EC50 = 11.2 mg/L (Desmodesmus subspicatus) |
| Toxicity to Fish            | 96h LC50: 4.71 – 5.62 mg/L (Pimephales promelas) 96h LC50 = 6.9 mg/L (Cyprinus carpio) |
| Toxicity to Microorganisms  | EC50 = 0.21 mg/L 5 min |
| Daphina Magna (Water Flea) | 48h EC50 = 3.9 mg/L 48h EC50: 3.4 – 4.5 mg/L |

12.3. Bioaccumulative potential

| p-tert-Butyl phenol (98-54-4) |
|-----------------------------|-----------------|
| Bioaccumulative potential   | Log Pow 2.44    |

12.4. Mobility in soil
No additional information available.

12.5. Other adverse effects

Effect on the global warming: No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations: This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Additional information: Dispose of contents/containers in accordance with local regulations.

SECTION 14: Transport information

14.1. DOT, ADR, IMDG, IATA

UN Number: UN2735
Proper Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S.*
Transport Hazard Class(es): 8
Hazard labels: 

Packing group: II
Marine pollutant: Yes

14.2. Additional information

Special transport precautions: Do not handle until all safety precautions have been read and understood.
SECTION 15: Regulatory information

15.1. US Federal regulations
All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

15.2. US State regulations

| VB 225™ FS Part B (Hardener) | This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm. |

SECTION 16: Other information

Date of issue : 02/25/2013
Revision date : 11/02/2016
Other information : None.

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user’s responsibility to satisfy oneself as to the suitability and completeness of this information for the user’s own particular use.