SAFETY DATA SHEET

1. Identification
Product identifier
Earth Shield® VEN500 Part A Epoxy
Other means of identification
Synonyms
Bonding epoxy resin

Recommended use
Not available.
Recommended restrictions
None known.

Manufacturer/Importer/Supplier/Distributor information
Company Name
J P Specialties, Inc.
Address
25811 Jefferson Avenue
Murrieta, CA 92562
USA
After hours telephone number
1-800-821-3559
Normal work hours telephone number
1-800-821-3859
Website
www.jpspecialties.com
E-mail
jpspec@jpspecialties.com
Emergency 24-hour telephone number
CHEMTREC: North America 1-800-424-9300  International 1-800-527-3887
Information on operation hours
7:00 a.m. to 3:30 p.m.

2. Hazard(s) identification
Physical hazards
Not classified.
Health hazards
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2
Sensitization, skin Category 1
Carcinogenicity Category 1

Environmental hazards
Not classified.
OSHA defined hazards
Not classified.

Label elements
Signal word
Danger
Hazard statement
May cause cancer. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.

Precautionary statement
Prevention
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling.

Response
Specific treatment see Section 4 of this SDS. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

None known.

Not applicable.

### 3. Composition/information on ingredients

#### Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>BISPHENOL A-(EPICHLORHYDRIN) EPOXY RESIN</td>
<td></td>
<td>25068-38-6</td>
<td>40 - 50</td>
</tr>
<tr>
<td>CASHEW, NUTSHELL LIQ., GLYCIDYL ETHERS</td>
<td></td>
<td>171263-25-5</td>
<td>1-10</td>
</tr>
<tr>
<td>PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER</td>
<td></td>
<td>28064-14-4</td>
<td>1-10</td>
</tr>
<tr>
<td>PROPRIETARY INGREDIENTS</td>
<td></td>
<td>N/A</td>
<td>&lt; 2</td>
</tr>
</tbody>
</table>

Other components below reportable levels

#### 4. First-aid measures

**Inhalation**
Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact**
Wash off with soap and water. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.

**Eye contact**
Rinse with water. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing.

**Ingestion**
Rinse mouth. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Call a POISON CENTER or doctor/physician if you feel unwell.

**Most important symptoms/effects, acute and delayed**
Direct contact with eyes may cause temporary irritation.

**Indication of immediate medical attention and special treatment needed**
Treat symptomatically.

**General information**
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### 5. Fire-fighting measures

**Suitable extinguishing media**
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing media**
Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical**
During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions**
Move containers from fire area if you can do so without risk.

**Specific methods**
Use standard firefighting procedures and consider the hazards of other involved materials.

#### 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Avoid prolonged exposure. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store in original tightly closed container.

8. Exposure controls/personal protection

Occupational exposure limits

This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses; chemical goggles (if splashing is possible).

Skin protection

Hand protection

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Other

Wear suitable protective clothing.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state

Liquid.

Form

Liquid.

Color

Not available.

Odor

Not available.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

Not available.

Initial boiling point and boiling range

212 °F (100 °C) estimated

Flash point

> 250.0 °F (> 121.1 °C) estimated

Evaporation rate

Not available.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)

Not available.

Flammability limit - upper (%)

Not available.
Explosive limit - lower (%): Not available.
Explosive limit - upper (%): Not available.
Vapor pressure: 13.33 hPa estimated
Vapor density: Not available.
Relative density: Not available.
Solubility(ies)
   Solubility (water): Not available.
Partition coefficient (n-octanol/water): Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.
Other information
   Density: 12.00 lb/gal estimated
   Specific gravity: 1.45 estimated

10. Stability and reactivity
Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability: Material is stable under normal conditions.
Possibility of hazardous reactions: Hazardous polymerization does not occur.
Conditions to avoid: Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials: Strong oxidizing agents.
Hazardous decomposition products: No hazardous decomposition products are known.

11. Toxicological information
Information on likely routes of exposure
   Inhalation: May be harmful if inhaled.
   Skin contact: May cause an allergic skin reaction. Causes skin irritation.
   Eye contact: Causes serious eye irritation.
   Ingestion: May be harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics
   Direct contact with eyes may cause temporary irritation.
Information on toxicological effects
Acute toxicity: Not available.
Skin corrosion/irritation: Causes skin irritation.
Serious eye damage/eye irritation: Causes serious eye irritation.
Respiratory or skin sensitization
   Respiratory sensitization: Not available.
   Skin sensitization: May cause allergic skin disorders in sensitive individuals.
Germ cell mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity: May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity
   Not listed.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)
   Not regulated.
US. National Toxicology Program (NTP) Report on Carcinogens
   Not listed.
Reproductive toxicity
This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure
Not classified.

Specific target organ toxicity - repeated exposure
Not classified.

Aspiration hazard
Not available.

12. Ecological information

Ecotoxicity
The product contains a substance which is toxic to aquatic organisms.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEN500 Part A Epoxy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Daphnia</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fish</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6.2131 mg/l, 48 hours estimated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3.4519 mg/l, 96 hours estimated</td>
</tr>
</tbody>
</table>

Components

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER (CAS 28064-14-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fish</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 - 10 mg/l</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

Persistence and degradability
No data is available on the degradability of this product.

Bioaccumulative potential
No data available.

Mobility in soil
No data available.

Other adverse effects
Not known.

13. Disposal considerations

Disposal instructions
When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.

Local disposal regulations
Dispose in accordance with all applicable regulations.

Hazardous waste code
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging
Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG

<table>
<thead>
<tr>
<th>UN number</th>
<th>ENVIROMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BISPENOL A- (EPICHLORHYDRIN) EPOXY RESIN, PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), MARINE POLLUTANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td></td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td></td>
</tr>
<tr>
<td>Class</td>
<td>9</td>
</tr>
<tr>
<td>Subsidiary risk</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td></td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>Yes</td>
</tr>
<tr>
<td>EmS</td>
<td>F-A, S-F</td>
</tr>
</tbody>
</table>
15. Regulatory information

US federal regulations

- All components are on the U.S. EPA TSCA Inventory List.
- TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
  - Not regulated.
- CERCLA Hazardous Substance List (40 CFR 302.4)
  - Not listed.
- SARA 304 Emergency release notification
  - Not regulated.
  - Not regulated.
- Superfund Amendments and Reauthorization Act of 1986 (SARA)
  - SARA 302 Extremely hazardous substance
    - Not listed.
  - SARA 311/312 Hazardous chemical
    - Yes
      - Classified hazard categories:
        - Skin corrosion or irritation
        - Serious eye damage or eye irritation
        - Respiratory or skin sensitization
        - Carcinogenicity
        - Hazard not otherwise classified (HNOC)
  - SARA 313 (TRI reporting)
    - Not regulated.

Other federal regulations

- Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
  - Not regulated.
- Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
  - Not regulated.
- Safe Drinking Water Act (SDWA)
  - Not regulated.
US state regulations

California Proposition 65
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>No</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>No</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>No</td>
</tr>
<tr>
<td>Taiwan</td>
<td>Taiwan Chemical Substance Inventory (TCSI)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date: 08-29-2016
Revision date: 08-10-2018
Version #: 09
NFPA ratings
Health: 2
Flammability: 1
Instability: 0

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Revision information
Product and Company Identification: Alternate Trade Names
Hazard(s) identification: Response
Hazard(s) identification: Prevention
Hazard(s) identification: Hazard statement
Composition / Information on Ingredients: Disclosure Overrides
Physical & Chemical Properties: Multiple Properties
Toxicological information: Chronic effects
Ecological information: Other adverse effects
Transport Information: Material Transportation Information
Regulatory Information: United States
1. Identification

Product identifier: Earth Shield® VEN500 Part B Hardener

Other means of identification: Bonding Epoxy Hardener

Recommended use: Not available.

Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name: J P Specialties, Inc.
Address: 25811 Jefferson Ave
Murrieta, CA 92562
USA

After hours telephone number: 1-800-821-3859

Normal work hours telephone number: 1-800-821-3859

Website: www.jpspecialties.com

E-mail: jpspec@jpspecialties.com

Emergency 24-hour telephone number: CHEMTREC: North America 1-800-424-9300   International 1-800-527-3887

Information on operation hours: 7:00 a.m. to 3:30 p.m.

2. Hazard(s) identification

Physical hazards: Not classified.

Health hazards:
- Skin corrosion/irritation: Category 2
- Serious eye damage/eye irritation: Category 1
- Sensitization, respiratory: Category 1
- Sensitization, skin: Category 1
- Reproductive toxicity (fertility, the unborn child): Category 2
- Specific target organ toxicity, single exposure: Category 1
- Specific target organ toxicity, single exposure: Category 3 respiratory tract irritation
- Specific target organ toxicity, repeated exposure: Category 1

Environmental hazards: Not classified.

OSHA defined hazards: Not classified.

Label elements

Signal word: Danger

Hazard statement: Causes skin irritation. Causes serious eye damage. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. Suspected of damaging fertility or the unborn child. Causes damage to organs. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure.
Precautionary statement

Prevention
Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face
protection. Avoid breathing dust/fume/gas/mist/vapors/spray. In case of inadequate ventilation
wear respiratory protection. Contaminated work clothing must not be allowed out of the
workplace. Obtain special instructions before use. Do not handle until all safety precautions have
been read and understood. Do not eat, drink or smoke when using this product. Use only outdoors
or in a well-ventilated area.

Response
IF ON SKIN: Wash with plenty of soap and water. Specific treatment see Section 4 of this SDS. If
skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before
reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if
present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. IF INHALED:
If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for
breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. IF
INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON
CENTER/doctor if you feel unwell. IF exposed or concerned: Get medical advice/attention.

Storage
Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Disposal
Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)
None known.

Supplemental information
Not applicable.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>BENZYL ALCOHOL</td>
<td>100-51-6</td>
<td>0 - 40</td>
<td></td>
</tr>
<tr>
<td>[3-(aminoethyl)phenyl]methanamine</td>
<td>1477-55-0</td>
<td>5 - &lt; 10</td>
<td></td>
</tr>
<tr>
<td>PHENOL, 4-NONYL-, BRANCHED</td>
<td>84852-15-3</td>
<td>5 - &lt; 10</td>
<td></td>
</tr>
<tr>
<td>3-AMINOPROPYLTRIETHOXYSILANE</td>
<td>919-30-2</td>
<td>1-10</td>
<td></td>
</tr>
<tr>
<td>ETHYLENEDIAMINE</td>
<td>107-15-3</td>
<td>0.27</td>
<td></td>
</tr>
</tbody>
</table>

Other components below reportable levels 59.84

4. First-aid measures

Inhalation
Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact
Wash off with soap and water. Get medical attention if irritation develops and persists. Wash
contaminated clothing before reuse.

Eye contact
Rinse with water. Continue to rinse for at least 15 minutes. Get medical attention if irritation
persists after washing.

Ingestion
Rinse mouth. Do not induce vomiting. If vomiting occurs, the head should be kept low so that
stomach vomit doesn't enter the lungs. Call a POISON CENTER or doctor/physician if you feel
unwell.

Most important symptoms/effects, acute and delayed
Direct contact with eyes may cause temporary irritation.

Indication of immediate medical attention and special treatment needed
Treat symptomatically.

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to
protect themselves.

5. Fire-fighting measures

Suitable extinguishing media
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Avoid prolonged exposure. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHYLENEDIAMINE (CAS 107-15-3)</td>
<td>PEL</td>
</tr>
<tr>
<td>ETHYLENEDIAMINE (CAS 107-15-3)</td>
<td>TWA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>US. ACGIH Threshold Limit Values</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>[3-(aminoethyl)phenyl]methanamine (CAS 1477-55-0)</td>
<td>Ceiling</td>
</tr>
<tr>
<td>ETHYLENEDIAMINE (CAS 107-15-3)</td>
<td>TWA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>US. NIOSH: Pocket Guide to Chemical Hazards</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>[3-(aminoethyl)phenyl]methanamine (CAS 1477-55-0)</td>
<td>Ceiling</td>
</tr>
<tr>
<td>ETHYLENEDIAMINE (CAS 107-15-3)</td>
<td>TWA</td>
</tr>
<tr>
<td>ETHYLENEDIAMINE (CAS 107-15-3)</td>
<td>TWA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>US. AIHA Workplace Environmental Exposure Level (WEEL) Guides</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BENZYL ALCOHOL (CAS 100-51-6)</td>
<td>TWA</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Biological limit values

No biological exposure limits noted for the ingredient(s).
Exposure guidelines

US - California OELs: Skin designation
[3-(aminoethyl)phenyl]methanamine (CAS 1477-55-0) Can be absorbed through the skin.

US - Tennessee OELs: Skin designation
[3-(aminoethyl)phenyl]methanamine (CAS 1477-55-0) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation
[3-(aminoethyl)phenyl]methanamine (CAS 1477-55-0) Can be absorbed through the skin.
ETHYLENEDIAMINE (CAS 107-15-3) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation
[3-(aminoethyl)phenyl]methanamine (CAS 1477-55-0) Can be absorbed through the skin.

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

Appropriate engineering controls

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear safety glasses; chemical goggles (if splashing is possible).

Skin protection

Hand protection
Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.

Other
Wear suitable protective clothing.

Respiratory protection
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance
Liquid.

Physical state
Liquid.

Form
Liquid.

Color
Golden to Light Amber

Odor
Ammoniacal. Amine-like.

Odor threshold
Not available.

pH
Alkaline.

Melting point/freezing point
4.64 °F (-15.2 °C) estimated

Initial boiling point and boiling range
212 °F (100 °C) estimated

Flash point
> 199.4 °F (> 93.0 °C) estimated

Evaporation rate
Not available.

Flammability (solid, gas)
Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)
3 % estimated

Flammability limit - upper (%)
10 % estimated

Explosive limit - lower (%)
Not available.

Explosive limit - upper (%)
Not available.

Vapor pressure
Not available.

Vapor density
Not available.

Relative density
Not available.

Solubility(ies)
Solubility (water)
Partial
10. Stability and reactivity

Reactivity  The product is stable and non-reactive under normal conditions of use, storage and transport
Chemical stability  Material is stable under normal conditions.
Possibility of hazardous reactions  Hazardous polymerization does not occur.
Conditions to avoid  Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials  Strong oxidizing agents.
Hazardous decomposition products  No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Information on likely routes of exposure

Inhalation  May be harmful if swallowed and enters airways. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact  Irritating to skin.
Eye contact  Causes serious eye damage.
Ingestion  May be harmful if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Direct contact with eyes may cause temporary irritation.

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>BENZYL ALCOHOL (CAS 100-51-6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>Rabbit</td>
<td>2000 mg/kg</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>1230 - 3100 mg/kg</td>
</tr>
<tr>
<td>ETHYLENEDIAMINE (CAS 107-15-3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>Rabbit</td>
<td>730 mg/kg</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>500 mg/kg</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation  Causes skin irritation.
Serious eye damage/eye irritation  Causes serious eye damage.
Respiratory or skin sensitization

Respiratory sensitization  May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization  Causes skin irritation. May cause allergic skin disorders in sensitive individuals.
Germ cell mutagenicity  No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity  This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. This product contains crystalline silica. Silica is a known carcinogen; however in this encapsulated form the normal routes of exposure are unavailable.

**IARC Monographs. Overall Evaluation of Carcinogenicity**
Not listed.

**US. National Toxicology Program (NTP) Report on Carcinogens**
Not listed.

Not regulated.

Reproductive toxicity  Suspected of damaging fertility or the unborn child.

Specific target organ toxicity

Specific target organ toxicity
- repeated exposure  Skin. Respiratory system.

Aspiration hazard  Not available.

## 12. Ecological information

**Ecotoxicity**  The product contains a substance which is toxic to aquatic organisms.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>VEN500 Series Part B Epoxy Hardener</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Daphnia 0.5477 mg/l, 48 hours estimated</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fish 1.7856 mg/l, 96 hours estimated</td>
</tr>
<tr>
<td><strong>Components</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BENZYL ALCOHOL (CAS 100-51-6)</td>
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<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Bluegill (Lepomis macrochirus) 10 mg/l, 96 hours</td>
</tr>
<tr>
<td>ETHYLENEDIAMINE (CAS 107-15-3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fathead minnow (Pimephales promelas) 98.6 - 131.6 mg/l, 96 hours</td>
</tr>
<tr>
<td>PHENOL, 4-NONYL-, BRANCHED (CAS 84852-15-3)</td>
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<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
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<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Clam (Mulinia lateralis) 0.0379 mg/l, 48 hours</td>
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<tr>
<td>Fish</td>
<td>LC50</td>
<td>Winter flounder (Pleuronectes americanus) 0.017 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

* Estimates for product may be based on additional component data not shown.

**Persistence and degradability**  No data is available on the degradability of this product.

**Bioaccumulative potential**  No data available.

**Partition coefficient n-octanol / water (log Kow)**
- BENZYL ALCOHOL  1.1
- ETHYLENEDIAMINE -2.04, at pH 13

**Mobility in soil**  No data available.

**Other adverse effects**  No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Disposal considerations

**Disposal instructions**  When this product as supplied is to be discarded as waste, it does not meet the definition of a RCRA waste under 40 CFR 261.

**Local disposal regulations**  Dispose in accordance with all applicable regulations.

**Hazardous waste code**  The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging
Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not available.

15. Regulatory information

US federal regulations
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

TSCA Chemical Action Plans, Chemicals of Concern
PHENOL, 4-NONYL-, BRANCHED (CAS 84852-15-3) Nonylphenol (NP) and Nonylphenol Ethoxylates (NPEs) Action Plan

CERCLA Hazardous Substance List (40 CFR 302.4)
ETHYLENEDIAMINE (CAS 107-15-3) Listed.

US EPCRA Section 304 Extremely Haz. Subs. & CERCLA Haz. Subs.: Section 304 EHS reportable quantity
ETHYLENEDIAMINE (CAS 107-15-3) 5000 LBS

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>Reportable quantity (pounds)</th>
<th>Threshold planning quantity (pounds)</th>
<th>Threshold planning quantity, lower value (pounds)</th>
<th>Threshold planning quantity, upper value (pounds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHYLENEDIAMINE</td>
<td>107-15-3</td>
<td>5000</td>
<td>10000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SARA 311/312</td>
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<tr>
<td>Hazardous chemical</td>
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<tr>
<td>SARA 313 (TRI reporting)</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
ETHYLENEDIAMINE (CAS 107-15-3)

Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))
ETHYLENEDIAMINE (CAS 107-15-3)
### International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>No</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>No</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

* "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

### 16. Other information, including date of preparation or last revision

- **Issue date**: 08-29-2016
- **Revision date**: 12-22-2017
- **Version #**: 08
- **NFPA ratings**
  - Health: 4
  - Flammability: 0
  - Instability: 0

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

### Revision information

This document has undergone significant changes and should be reviewed in its entirety.