



# 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.jp-specialties.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.

<b>Storage</b>	Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	Not applicable.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
BISPHENOL A-(EPICHLORHYDRIN) EPOXY RESIN		25068-38-6	40 - 50
CASHEW, NUTSHELL LIQ., GLYCIDYL ETHERS		171263-25-5	1-10
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER		28064-14-4	1-10
PROPRIETARY INGREDIENTS		N/A	< 2
Other components below reportable levels			50.51

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Wash off with soap and water. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Rinse with water. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing.
<b>Ingestion</b>	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.
<b>Most important symptoms/effects, acute and delayed</b>	Direct contact with eyes may cause temporary irritation.
<b>Indication of immediate medical attention and special treatment needed</b>	Treat symptomatically.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.
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**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.

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.

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

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May be harmful if inhaled.
<b>Skin contact</b>	May cause an allergic skin reaction. Causes skin irritation.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.

<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Direct contact with eyes may cause temporary irritation.
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### Information on toxicological effects

<b>Acute toxicity</b>	Not available.
<b>Skin corrosion/irritation</b>	Causes skin irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.

### Respiratory or skin sensitization

<b>Respiratory sensitization</b>	Not available.
<b>Skin sensitization</b>	May cause allergic skin disorders in sensitive individuals.

<b>Germ cell mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
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<b>Carcinogenicity</b>	May cause cancer.
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#### 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.

<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not available.

## 12. Ecological information

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

Product	Species	Test Results
VEN500 Part A Epoxy		
<b>Aquatic</b>		
Crustacea	EC50	Daphnia
Fish	LC50	Fish
		6.2131 mg/l, 48 hours estimated
		3.4519 mg/l, 96 hours estimated
Components	Species	Test Results
PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER (CAS 28064-14-4)		
<b>Aquatic</b>		
<i>Acute</i>		
Fish	LC50	Fish
		1 - 10 mg/l

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

<b>Persistence and degradability</b>	No data is available on the degradability of this product.
<b>Bioaccumulative potential</b>	No data available.
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	Not known.

## 13. Disposal considerations

<b>Disposal instructions</b>	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.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	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).
<b>Contaminated packaging</b>	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.

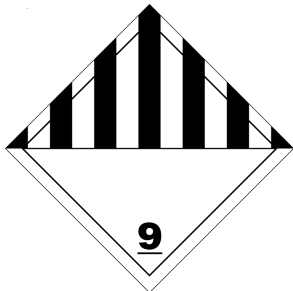
## 14. Transport information

<b>DOT</b>	Not regulated as dangerous goods.
<b>IATA</b>	Not regulated as dangerous goods.
<b>IMDG</b>	
<b>UN number</b>	UN3082
<b>UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BISPHENOL A-(EPICHLORHYDRIN) EPOXY RESIN, PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), MARINE POLLUTANT
<b>Transport hazard class(es)</b>	
<b>Class</b>	9
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	Yes
<b>EmS</b>	F-A, S-F

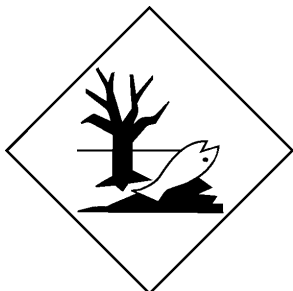
**Special precautions for user** Not available.

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

**IMDG**



**Marine pollutant**



## 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.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312** Yes

**Hazardous chemical**

**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

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

\*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

<b>Issue date</b>	08-29-2016
<b>Revision date</b>	08-10-2018
<b>Version #</b>	09
<b>NFPA ratings</b>	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



# SAFETY DATA SHEET

## 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.jpsspecialties.com  
**E-mail** jpspec@jpsspecialties.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

Chemical name	Common name and synonyms	CAS number	%
BENZYL ALCOHOL		100-51-6	0 - 40
[3-(aminoethyl)phenyl]methanamine		1477-55-0	5 - < 10
PHENOL, 4-NONYL-, BRANCHED		84852-15-3	5 - < 10
3-AMINOPROPYLTRIETHOXYSILANE		919-30-2	1-10
ETHYLENEDIAMINE		107-15-3	0.27
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 (CO<sub>2</sub>).

### 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.

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

**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. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
ETHYLENEDIAMINE (CAS 107-15-3)	PEL	25 mg/m <sup>3</sup> 10 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
[3-(aminoethyl)phenyl]methanamine (CAS 1477-55-0)	Ceiling	0.1 mg/m <sup>3</sup>
ETHYLENEDIAMINE (CAS 107-15-3)	TWA	10 ppm

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
[3-(aminoethyl)phenyl]methanamine (CAS 1477-55-0)	Ceiling	0.1 mg/m <sup>3</sup>
ETHYLENEDIAMINE (CAS 107-15-3)	TWA	25 mg/m <sup>3</sup> 10 ppm

#### US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
BENZYL ALCOHOL (CAS 100-51-6)	TWA	44.2 mg/m <sup>3</sup> 10 ppm

**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.

**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

<b>Appearance</b>	Liquid.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Golden to Light Amber
<b>Odor</b>	Ammoniacal. Amine-like.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Alkaline
<b>Melting point/freezing point</b>	4.64 °F (-15.2 °C) estimated
<b>Initial boiling point and boiling range</b>	212 °F (100 °C) estimated
<b>Flash point</b>	> 199.4 °F (> 93.0 °C) estimated
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	3 % estimated
<b>Flammability limit - upper (%)</b>	10 % estimated
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Partial

<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	644 °F (340 °C) estimated
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	8.31 lb/gal estimated
<b>Specific gravity</b>	1

## 10. Stability and reactivity

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

## 11. Toxicological information

### Information on likely routes of exposure

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

Components	Species	Test Results
BENZYL ALCOHOL (CAS 100-51-6)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	2000 mg/kg
<b>Oral</b>		
LD50	Rat	1230 - 3100 mg/kg
ETHYLENEDIAMINE (CAS 107-15-3)		
<b>Acute</b>		
<b>Dermal</b>		
LD50	Rabbit	730 mg/kg
<b>Oral</b>		
LD50	Rat	500 mg/kg

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

<b>Skin corrosion/irritation</b>	Causes skin irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled
<b>Skin sensitization</b>	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.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not regulated.

**Reproductive toxicity** Suspected of damaging fertility or the unborn child.

**Specific target organ toxicity - single exposure** Skin Lungs. Nasal mucous membranes. Eyes.

**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.

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

\* 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**

Chemical name	CAS number	Reportable quantity (pounds)	Threshold planning quantity (pounds)	Threshold planning quantity, lower value (pounds)	Threshold planning quantity, upper value (pounds)
ETHYLENEDIAMINE	107-15-3	5000	10000		

**SARA 311/312 Hazardous chemical** No

**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)**

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

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

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