

**1. Identification**

**Product identifier** **Flexjoint Hardener**  
**Other means of identification** Not available.  
**Recommended use** Not available.  
**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company Name** ErgonArmor, a division of Ergon Asphalt & Emulsions, Inc.  
**Address** 2829 Lakeland Drive  
 Jackson, MS 39232  
 USA  
**After hours telephone number** 1-800-222-7122  
**Normal work hours telephone number** 1-877-982-7667  
**Website** www.ergonarmor.com  
**E-mail** sds@ergon.com  
**Emergency 24-hour telephone number** CHEMTREC: North America 1-800-424-9300 International 1-800-527-3887  
**Information on operation hours** 8:00 a.m. to 5:00 p.m.

**2. Hazard(s) identification**

**Physical hazards** Not classified.  
**Health hazards** Acute toxicity, dermal Category 4  
 Acute toxicity, inhalation Category 4  
 Skin corrosion/irritation Category 1  
 Serious eye damage/eye irritation Category 1  
 Sensitization, skin Category 1  
 Specific target organ toxicity, single exposure Category 3 respiratory tract irritation  
**Environmental hazards** Hazardous to the aquatic environment, long-term hazard Category 3  
**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Not available.  
**Hazard statement** Toxic to aquatic life. May cause respiratory irritation. Causes severe skin burns and eye damage  
 Harmful in contact with skin. May cause an allergic skin reaction. Harmful if inhaled. Harmful to aquatic life with long lasting effects.  
**Prevention** Avoid release to the environment. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash thoroughly after handling. Do not breathe mist or vapor. Wear protective gloves/protective clothing/eye protection/face protection.  
**Response** IF exposed or concerned: Get medical advice/attention. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Collect spillage. Hazardous to the aquatic environment. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see this label). IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.  
**Storage** Not available.

<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>	None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical name	Common name and synonyms	CAS number	%
2-AMINOETHANOL		141-43-5	65-90
TRIETHYLENETETRAMINE		112-24-3	15-30

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get medical attention immediately.
<b>Skin contact</b>	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing separately before reuse. Destroy contaminated clothing and shoes. If skin irritation or an allergic skin reaction develops, get medical attention.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Do not rub eyes. Get medical attention immediately.
<b>Ingestion</b>	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. If swallowed, do NOT induce vomiting. Give a glass of water. Never give anything by mouth to a victim who is unconscious or is having convulsions.
<b>Most important symptoms/effects, acute and delayed</b>	Not available.
<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. Get medical attention if symptoms occur.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Dry chemical, CO <sub>2</sub> , or water spray. Foam. Water spray should be used to cool containers.
<b>Unsuitable extinguishing media</b>	Do not use a solid water stream as it may scatter and spread fire.
<b>Specific hazards arising from the chemical</b>	Container may explode in heat of fire. Fire may produce irritating, corrosive and/or toxic gases.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear full protective clothing including self contained breathing apparatus. Structural firefighters protective clothing will only provide limited protection.
<b>Fire-fighting equipment/instructions</b>	Firefighters should wear full protective clothing including self contained breathing apparatus. Avoid breathing fire vapors.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Ventilate closed spaces before entering them.
<b>Methods and materials for containment and cleaning up</b>	Wear appropriate protective equipment and clothing during clean-up. Do not allow the spilled product to enter public drainage system or open water courses. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Clean surface thoroughly to remove residual contamination.

### 7. Handling and storage

<b>Precautions for safe handling</b>	Do not get in eyes, on skin, on clothing. Do not breathe gas/fumes/vapor/spray. Do not reuse the empty container.
<b>Conditions for safe storage, including any incompatibilities</b>	Avoid excessive heat. Keep container tightly closed in a cool, well-ventilated place. Do not store in direct sunlight.

## 8. Exposure controls/personal protection

### Occupational exposure limits

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

Components	Type	Value
2-AMINOETHANOL (CAS 141-43-5)	PEL	6 mg/m <sup>3</sup>
		3 ppm

#### US. ACGIH Threshold Limit Values

Components	Type	Value
2-AMINOETHANOL (CAS 141-43-5)	STEL	6 ppm
	TWA	3 ppm

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

Components	Type	Value
2-AMINOETHANOL (CAS 141-43-5)	STEL	15 mg/m <sup>3</sup>
		6 ppm
	TWA	8 mg/m <sup>3</sup> 3 ppm

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

Components	Type	Value
TRIETHYLENETETRAMINE (CAS 112-24-3)	TWA	6 mg/m <sup>3</sup>
		1 ppm

**Biological limit values** No biological exposure limits noted for the ingredient(s).

### Exposure guidelines

#### US WEEL Guides: Skin designation

TRIETHYLENETETRAMINE (CAS 112-24-3)

Can be absorbed through the skin.

**Appropriate engineering controls** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

### Individual protection measures, such as personal protective equipment

**Eye/face protection** Chemical goggles and face shield are recommended.

**Hand protection** Not available.

**Other** Wear appropriate clothing to prevent any possibility of skin contact with solutions containing 10% or more of this chemical.

**Respiratory protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Thermal hazards** Not available.

**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** Amber Liquid

**Physical state** Liquid.

**Form** Liquid.

**Color** light yellow to amber

**Odor** Amine-like.

**Odor threshold** Not available.

**pH** Not available.

**Melting point/freezing point** -38.2 °F (-39 °C) / 53.6 °F (12 °C) estimated

**Initial boiling point and boiling range** > 400 °F (> 204.44 °C)

339 °F (170.56 °C) estimated

**Flash point** 220.0 °F (104.4 °C) estimated

	253.0 °F (122.8 °C)
<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>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	0.34 hPa estimated < 2 mm Hg @ 20 deg C
<b>Vapor density</b>	3.5
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Partial Soluble
<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>Specific gravity</b>	0.97 @ 25 deg C
<b>VOC (Weight %)</b>	75 % estimated

## 10. Stability and reactivity

<b>Reactivity</b>	Not available.
<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 heat, sparks, open flames and other ignition sources. Contact with incompatible materials.
<b>Incompatible materials</b>	Strong acids, alkalis and oxidizing agents. Copper and copper alloys. Chlorinated compounds. Epoxy resins.
<b>Hazardous decomposition products</b>	Irritating and/or toxic fumes and gases may be emitted upon the products decomposition. Carbon oxides. Nitrogen oxides (NOx).

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion</b>	May be harmful if swallowed.
<b>Inhalation</b>	May be harmful if inhaled.
<b>Skin contact</b>	Causes skin burns.
<b>Eye contact</b>	Not available.

**Symptoms related to the physical, chemical and toxicological characteristics** Not available.

### Information on toxicological effects

#### Acute toxicity

Components	Species	Test Results
2-AMINOETHANOL (CAS 141-43-5)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	1025 mg/kg
<i>Oral</i>		
LD50	Guinea pig	620 mg/kg

Components	Species	Test Results
	Mouse	700 mg/kg
	Rat	10.2 g/kg
<i>Other</i>		
LD50	Mouse	50 mg/kg
	Rat	67 mg/kg

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

**Skin corrosion/irritation** Not available.

**Serious eye damage/eye irritation** Not available.

**Respiratory or skin sensitization**

**Respiratory sensitization** Not available.

**Skin sensitization** Causes skin burns. May be harmful if absorbed through skin.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Not classifiable as to carcinogenicity to humans.

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

Not listed.

**Reproductive toxicity** Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals.

**Specific target organ toxicity - single exposure** Not available.

**Specific target organ toxicity - repeated exposure** Not available.

**Aspiration hazard** Not available.

**Chronic effects** Ethanolamine: Repeated overexposure to ethanolamine has caused liver and kidney damage in laboratory animals.

**12. Ecological information**

**Ecotoxicity** Contains a substance which causes risk of hazardous effects to the environment. Not expected to be harmful to aquatic organisms.

Components	Species	Test Results
2-AMINOETHANOL (CAS 141-43-5)		
<b>Aquatic</b>		
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)
		114 - 196 mg/l, 96 hours

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

**Persistence and degradability** Not available.

**Bioaccumulative potential** Not available.

**Partition coefficient n-octanol / water (log Kow)**

2-AMINOETHANOL -1.31

**Mobility in soil** Not available.

**Other adverse effects** Not available.

**13. Disposal considerations**

**Disposal instructions** Do not allow this material to drain into sewers/water supplies. Dispose of waste and residues in accordance with local authority requirements.

**Hazardous waste code** Not regulated.

**Waste from residues / unused products** Avoid discharge into water courses or onto the ground.

**Contaminated packaging** Not available.

**14. Transport information**

**DOT**

**UN number** UN2735

**UN proper shipping name** Amines, liquid, corrosive, n.o.s, or Polyamines, liquid, corrosive, n.o.s.

<b>Transport hazard class(es)</b>	
Class	8
Subsidiary risk	-
Label(s)	8
<b>Packing group</b>	III
<b>Special precautions for user</b>	Not available.
<b>Special provisions</b>	A3, A6, B10, N34, T14, TP2, TP27
<b>Packaging exceptions</b>	None
<b>Packaging non bulk</b>	201
<b>Packaging bulk</b>	243

#### IATA

<b>UN number</b>	UN2735
<b>UN proper shipping name</b>	Amines, liquid, corrosive, n.o.s.
<b>Transport hazard class(es)</b>	
Class	8
Subsidiary risk	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	8L
<b>Special precautions for user</b>	Not available.
<b>Other information</b>	
<b>Passenger and cargo aircraft</b>	Allowed.
<b>Cargo aircraft only</b>	Allowed.

#### IMDG

<b>UN number</b>	UN2735
<b>UN proper shipping name</b>	AMINES, LIQUID, CORROSIVE, N.O.S. or POLYAMINES, LIQUID, CORROSIVE, N.O.S.
<b>Transport hazard class(es)</b>	
Class	8
Subsidiary risk	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-A, S-B
<b>Special precautions for user</b>	Not available.

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

#### DOT



#### IATA; IMDG



## 15. Regulatory information

**US federal regulations** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.  
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

### **TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

### **CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

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

Not listed.

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

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

### **SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312** No

### **Hazardous chemical**

### **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 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.

#### **US. Massachusetts RTK - Substance List**

2-AMINOETHANOL (CAS 141-43-5)  
TRIETHYLENETETRAMINE (CAS 112-24-3)

#### **US. New Jersey Worker and Community Right-to-Know Act**

Not regulated.

#### **US. Pennsylvania RTK - Hazardous Substances**

2-AMINOETHANOL (CAS 141-43-5)  
TRIETHYLENETETRAMINE (CAS 112-24-3)

#### **US. Rhode Island RTK**

Not regulated.

#### **US. California Proposition 65**

Not Listed.

### **International Inventories**

<b>Country(s) or region</b>	<b>Inventory name</b>	<b>On inventory (yes/no)*</b>
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)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
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>	04-14-2015
<b>Revision date</b>	01-12-2016
<b>Version #</b>	02
<b>Further information</b>	HMIS® is a registered trade and service mark of the NPCA.
<b>References</b>	ACGIH EPA: AQUIRE database NLM: Hazardous Substances Data Base US. IARC Monographs on Occupational Exposures to Chemical Agents HSDB® - Hazardous Substances Data Bank IARC Monographs. Overall Evaluation of Carcinogenicity National Toxicology Program (NTP) Report on Carcinogens ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices
<b>Disclaimer</b>	Information for this material safety data sheet was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the mandatory requirements of OSHA.
<b>Revision Information</b>	Product and Company Identification: Product and Company Identification Physical & Chemical Properties: Multiple Properties Toxicological Information: Toxicological Data Ecological Information: Ecotoxicity GHS: Classification