

Ergon Armor      **Revision Number:** 4.000  
**Issue Date:** 01/17/2012

**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product name:** FURALAC® MEMBRANE      **ID(s):**  
**Product type:** HARDENER  
Hardener component of a two-part furan resin based laminate lining system.      **Region:** United States

**Company address:** Ergon Armor  
Corrosion Engineering  
300 Stevens Drive, Suite 310  
Lester, PA 19113

**Contact information:**  
Telephone: 610.833.4000  
Emergency: Call CHEMTREC at 800.424.9300  
Internet: www.Ergon.com

**2. HAZARDS IDENTIFICATION**

**EMERGENCY OVERVIEW**

<b>Physical state:</b> Liquid	<b>HMIS:</b>
<b>Color:</b> Amber to brown	HEALTH: 2
<b>Odor:</b> Pungent, irritating odor	FLAMMABILITY: 1
	PHYSICAL HAZARD: 0
	Personal Protection: See MSDS section 8
	0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
	* = Chronic Health Hazard

WARNING! CONTACT CAN CAUSE ACID BURNS TO SKIN AND EYES. VAPORS CAN CAUSE NASAL AND RESPIRATORY TRACT IRRITATION, LACRIMATION, COUGH AND HEADACHE

**Relevant routes of exposure:** Eye and skin contact, inhalation

**Potential Health Effects**

**Inhalation:** Vapors can cause nasal and respiratory tract irritation, lacrimation, cough and headache.

**Skin contact:** Skin contact can cause acid burns.

**Eye contact:** Eye contact can cause acid burns.

**Ingestion:** Not a likely source of exposure.

**Existing conditions aggravated by exposure:** NE

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See Section 11 for additional toxicological information.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

Hazardous components	CAS-No.	%
Phthaloyl chloride	88-95-9	85-92
Dimethyl phthalate	131-11-3	8-15

#### 4. FIRST AID MEASURES

- Inhalation:** Move to fresh air.
- Skin contact:** Wash promptly with soap and water.
- Eye contact:** Immediately flush with water for 15 minutes while holding eyelids open and rolling eyes. Get immediate medical attention.
- Ingestion:** Get medical help. If conscious and medical help not available, give large amounts of water. DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

#### 5. FIRE FIGHTING MEASURES

- Flash point:** > 518°F (278°C)
- Autoignition temperature:** NE
- Flammable/Explosive limits - lower:** NE
- Flammable/Explosive limits - upper:** NE
- Extinguishing media:** Dry chemical, foam, carbon dioxide
- Special firefighting procedures:** *Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.*
- Unusual fire or explosion hazards:** Decomposes in presence of water and releases hydrogen chloride fumes.
- Hazardous combustion products:** NA

#### 6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

- Environmental precautions:** NE
- Clean-up methods:** Pick up spill on sand, earth or other non-combustible, absorbent material. Place in acid-resistant, covered container for disposal. Flush area with water to remove last traces.
- Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.*

#### 7. HANDLING AND STORAGE

- Handling:** Avoid skin contact. Do not reuse containers. Keep containers tightly closed. No smoking or eating in handling area.
- Storage:** Store above freezing in a cool, dry, well ventilated location. Separate from peroxides, bases, water, alcohols and FURALAC® resins.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Phthaloyl chloride	NE	NE	NE	NE
Dimethyl phthalate	5 mg/m <sup>3</sup> TWA	5 mg/m <sup>3</sup> TWA	NE	NIOSH REL: 5 mg/m <sup>3</sup> TWA

**Engineering controls:** Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (listed above). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment. Consult ACGIH ventilation manual or NFPA Standard 91 for design of exhaust systems.

**Respiratory protection:** Avoid breathing vapor. When airborne exposure limits are exceeded (see above), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

**Eye/face protection:** Where there is potential for eye contact, wear chemical goggles and have eye flushing equipment available.

**Skin protection:** Wear appropriate chemical resistant protective clothing and chemical resistant gloves to prevent skin contact. Consult glove manufacturer to determine appropriate type glove material for given application. Rinse contaminated skin promptly. Wash contaminated clothing and clean protective equipment before reuse. Wash skin thoroughly after handling.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Liquid
<b>Color:</b>	Amber to brown
<b>Odor:</b>	Pungent, irritating odor
<b>Odor threshold:</b>	NE
<b>pH:</b>	NE
<b>Vapor pressure:</b>	40 @ 343°F, 173°C
<b>Boiling point/range:</b>	538°F, 281°C
<b>Melting point/ range:</b>	NA
<b>Specific gravity (H<sub>2</sub>O = 1):</b>	1.37
<b>Vapor density:</b>	NE
<b>Flash point:</b>	> 518°F (278°C)
<b>Flammable/Explosive limits - lower:</b>	NE
<b>Flammable/Explosive limits - upper:</b>	NE
<b>Autoignition temperature:</b>	NE
<b>Evaporation rate:</b>	NE
<b>Solubility in water:</b>	Partly soluble. Decomposes.
<b>Partition coefficient (n-octanol/water):</b>	NE
<b>VOC content:</b>	NE

## 10. STABILITY AND REACTIVITY

**Stability:** Normally stable.

**Hazardous polymerization:** Will not normally occur. May occur due to improper contact with acid-reactive resins.

**Hazardous decomposition products:** Combustion in water to release hydrogen chloride fumes.

**Incompatibility:** Water. Peroxides. Oxidizers. Bases. Alcohols. Reacts violently with peroxides. Decomposes in water.

**Conditions to avoid:** See warnings above.

**11. TOXICOLOGICAL INFORMATION**

**Toxicological Information**

Data available for this material and/or its components are summarized below:

**General Product Information:**  
 Not available for the product.

**Component Data:**  
Phthaloyl chloride

**LD50/LC50:**  
 Oral, mouse: LD50 = 2530 mg/kg.

Dimethyl phthalate

**LD50/LC50:**  
 Oral rat LD50: 6800 mg/Kg; skin rabbit LD50: > 20 mL/kg.

**Cancer Lists**

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen
Phthaloyl chloride	No	No	No
Dimethyl phthalate	No	No	No

**Health Effects**

Hazardous components	Health Effects / Target Organs
Phthaloyl chloride	NE
Dimethyl phthalate	Irritation-Eyes, Nose, Throat---Mild (HE16) / Eyes, respiratory system, GI tract

**12. ECOLOGICAL INFORMATION**

**Ecotoxicological Information**

Data available for this material and/or its components are summarized below:

**General Product Information:**  
 Not available

**Component Data:**  
Phthaloyl chloride

Not available

Dimethyl phthalate

This material is expected to be slightly toxic to aquatic life. When released into the soil, this material may biodegrade to a moderate extent. When released into the soil, this material may leach into groundwater. When released into water, this material may biodegrade to a moderate extent. This material has an experimentally-determined bioconcentration factor (BCF) of less than 100. This material is not expected to significantly bioaccumulate. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals.

**13. DISPOSAL CONSIDERATIONS**

**Information provided is for unused product only.**

**Recommended method of** Dispose of as a corrosive waste.

*Recover, reclaim or recycle when practical. Dispose of in accordance with federal, state and local regulations. Empty containers retain product residue. Note: Chemical additions to, processing of, or otherwise altering this material may render information in this document to be incomplete, inaccurate or otherwise inappropriate for waste management purposes. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.*

**Disposal Regulatory** No EPA Waste Numbers are applicable for this product's components.

*It is the responsibility of the waste generator to determine if the waste meets the definition of a hazardous waste as promulgated at 40 CFR Part 261 subpart C.*

**14. TRANSPORT INFORMATION**

**U.S. Department of Transportation Ground (49 CFR)**

**Proper shipping name:** Corrosive liquid Acidic, Organic, NOS (contains phthaloyl chloride)  
**Hazard class or division:** 8  
**Identification number:** UN 3265  
**Packing group:** PG II

**15. REGULATORY INFORMATION**

**United States Regulatory Information**

**TSCA 8 (b) Inventory Status:** All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

**SARA 311/312:** Acute hazard  
 Chronic hazard

**Applicable component data listed below:**

**TSCA 12(b) Export Notification** None listed

**CERCLA/SARA Section 302 EHS** None listed

**Section 304 EHS RQ** None listed

**CLCRA RQ**

Dimethyl phthalate 5000 LBS

**Section 313**

	<b>Category</b>	<b>de minimis concentration</b>
Dimethyl phthalate	313	0.01

**RCRA CODE**

Dimethyl phthalate U102

**CAA 1129(r) TQ** None listed

**State Regulations**

<b>State Lists (Components on one or more lists)</b>	<b>CA</b>	<b>NJ</b>	<b>PA</b>	<b>RI</b>	<b>NY</b>	<b>MA</b>	<b>MN</b>
Phthaloyl chloride	No	No	No	No	No	No	No
Dimethyl phthalate	No	Yes	Yes	Yes	Yes	Yes	Yes

**California Proposition 65**

This product contains the following chemicals known to the State of California to cause cancer or reproductive toxicity:

None listed

**Canada Regulatory Information**

	<b>WHMIS Status</b>	<b>Hazard class(s)</b>
Phthaloyl chloride	Not listed	
Dimethyl phthalate	Disclosure (1%)	Uncontrolled

**16. OTHER INFORMATION**

**Revision Information**

**Revision Date:** 4/22/2011  
**Supersedes Revision Dated:** 9/24/2007  
**Revision Number:** 4.000  
**Revision Summary:** New format

**Key:** NE = Not Established, NA = Not Applicable

**State Lists reviewed (Sec. 15):**

- CA Title 8, §339. The Hazardous Substances List
- NJ Right to Know Hazardous Substance List
- PA Chapter 323. Hazardous Substance List
- RI Rhode Island Hazardous Substance List
- NY Part 597: List of Hazardous Substances
- MA Massachusetts Oil and Hazardous Material List
- MN 5206.400 Hazardous Substances

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