

1. Identification

Product identifier **FURALAC Resin**
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 Flammable liquids Category 4
Health hazards Acute toxicity, oral Category 3
 Acute toxicity, dermal Category 3
 Acute toxicity, inhalation Category 2
 Skin corrosion/irritation Category 2
 Serious eye damage/eye irritation Category 2
 Carcinogenicity Category 2
 Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
 Specific target organ toxicity, repeated exposure Category 2
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3
 Hazardous to the aquatic environment, long-term hazard Category 3
OSHA defined hazards Not classified.
Label elements



Signal word Danger
Hazard statement May cause respiratory irritation. Harmful if swallowed. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure. Suspected of causing cancer. Causes serious eye irritation. Toxic if inhaled. Harmful in contact with skin.
Prevention Use only outdoors or in a well-ventilated area. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear eye/face protection. Use personal protective equipment as required. Wear protective gloves/protective clothing. Wash thoroughly after handling. Do not breathe mist or vapor. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area.

Response	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or doctor/physician. 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. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Specific treatment (see this label). IF exposed or concerned: Get medical advice/attention.
Storage	Store in accordance with local/regional/national/international regulation.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
FURFURYL ALCOHOL		98-00-0	60 - 80
Phenol-formaldehyde polymer		9003-35-4	15 - 35
2-FURANCARBOXALDEHYDE		98-01-1	1 - < 3

4. First-aid measures

Inhalation	Move to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get medical attention immediately.
Skin contact	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing separately before reuse. If skin irritation or an allergic skin reaction develops, get medical attention.
Eye contact	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.
Ingestion	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting without advice from poison control center. Never give anything by mouth to a victim who is unconscious or is having convulsions.
Most important symptoms/effects, acute and delayed	Not available.
Indication of immediate medical attention and special treatment needed	Symptoms may be delayed.
General information	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

Suitable extinguishing media	Dry chemical, CO ₂ , or water spray. Water spray should be used to cool containers.
Unsuitable extinguishing media	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical	Fire may produce irritating, corrosive and/or toxic gases.
Special protective equipment and precautions for firefighters	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.
Fire-fighting equipment/instructions	Firefighters should wear full protective clothing including self contained breathing apparatus. Avoid breathing fire vapors.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	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.
Methods and materials for containment and cleaning up	Wear appropriate protective equipment and clothing during clean-up. Do not create a powder cloud by using a brush or compressed air. Clean surface thoroughly to remove residual contamination.
Environmental precautions	Avoid discharge into water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Do not get in eyes, on skin, on clothing. Do not breathe gas/fumes/vapor/spray. Do not reuse the empty container.

Conditions for safe storage, including any incompatibilities Keep container tightly closed in a cool, well-ventilated place. Keep container dry. Eliminate sources of ignition. Prevent electrostatic charge build-up by using common bonding and grounding techniques.

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-FURANCARBOXALDEHYDE (CAS 98-01-1)	PEL	20 mg/m3
FURFURYL ALCOHOL (CAS 98-00-0)	PEL	5 ppm 200 mg/m3 50 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
2-FURANCARBOXALDEHYDE (CAS 98-01-1)	TWA	2 ppm
FURFURYL ALCOHOL (CAS 98-00-0)	STEL	15 ppm
	TWA	10 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
FURFURYL ALCOHOL (CAS 98-00-0)	STEL	60 mg/m3
	TWA	15 ppm 40 mg/m3 10 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
2-FURANCARBOXALDEHYDE (CAS 98-01-1)	200 mg/l	Furoic acid, with hydrolysis	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

2-FURANCARBOXALDEHYDE (CAS 98-01-1) Can be absorbed through the skin.
FURFURYL ALCOHOL (CAS 98-00-0) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

2-FURANCARBOXALDEHYDE (CAS 98-01-1) Skin designation applies.
FURFURYL ALCOHOL (CAS 98-00-0) Skin designation applies.

US - Tennessee OELs: Skin designation

2-FURANCARBOXALDEHYDE (CAS 98-01-1) Can be absorbed through the skin.
FURFURYL ALCOHOL (CAS 98-00-0) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

2-FURANCARBOXALDEHYDE (CAS 98-01-1) Can be absorbed through the skin.
FURFURYL ALCOHOL (CAS 98-00-0) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

FURFURYL ALCOHOL (CAS 98-00-0) Can be absorbed through the skin.

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

2-FURANCARBOXALDEHYDE (CAS 98-01-1) 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 Chemical goggles and face shield are recommended.

Hand protection	Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves.
Other	Wear appropriate chemical resistant clothing. Chemical resistant gloves.
Skin protection	
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	Not available.
General hygiene considerations	When using, do not eat, drink or smoke. Avoid contact with eyes. Avoid contact with skin. Avoid contact with clothing. Wash hands before breaks and immediately after handling the product. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Dark brown liquid
Physical state	Liquid.
Form	Liquid.
Color	Dark brown
Odor	Furfuryl alcohol
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	323.6 °F (162 °C)
Flash point	162.0 °F (72.2 °C) Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.8 %
Flammability limit - upper (%)	16.3 %
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	1 mm Hg
Vapor density	3.3
Relative density	Not available.
Solubility(ies)	
Solubility (water)	1 - 10%
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Specific gravity	1.2

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Material is stable under normal conditions. However, this material can undergo hazardous polymerization.
Possibility of hazardous reactions	Hazardous polymerization will occur if contaminated with mineral acid. Heat will speed polymerization.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Product may react with strong acids, bases and oxidizing agents.
Hazardous decomposition products	Irritating and/or toxic fumes and gases may be emitted upon the products decomposition.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Harmful if swallowed.
Inhalation	Harmful by inhalation.
Skin contact	Harmful in contact with skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Eye contact	Not available.

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

Information on toxicological effects

Acute toxicity

Product	Species	Test Results
FURALAC Resin (CAS Mixture)		
Acute		
<i>Inhalation</i>		
LC50	Dog	13936.4951 mg/l, 6 Hours estimated
	Rat	6591.5854 mg/l, 6 Hours estimated
		314.3763 ppm, 4 Hours estimated
		28.4756 mg/l, 1 Hours estimated
<i>Oral</i>		
LD50	Dog	35782.8906 mg/kg estimated
<i>Other</i>		
LD50	Mouse	3841.9526 mg/kg estimated

Components	Species	Test Results
2-FURANCARBOXALDEHYDE (CAS 98-01-1)		
Acute		
<i>Inhalation</i>		
LC50	Dog	370 mg/l, 6 Hours
	Rat	175 mg/l, 6 Hours
		0.756 mg/l, 1 Hours
<i>Oral</i>		
LD50	Dog	950 mg/kg
	Mouse	400 mg/kg
	Rat	127 mg/kg
<i>Other</i>		
LD50	Mouse	102 mg/kg
	Rat	20 mg/kg

FURFURYL ALCOHOL (CAS 98-00-0)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	400 mg/kg
<i>Inhalation</i>		
LC50	Rat	233 ppm, 4 Hours
<i>Oral</i>		
LD50	Mouse	160 mg/kg
	Rat	275 mg/kg
<i>Other</i>		
LD50	Rabbit	650 mg/kg
	Rat	85 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	Harmful in contact with skin. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. None known.
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. Not classifiable as to carcinogenicity to humans.
IARC Monographs. Overall Evaluation of Carcinogenicity	
2-FURANCARBOXALDEHYDE (CAS 98-01-1)	3 Not classifiable as to carcinogenicity to humans.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	
Not listed.	
Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not available.
Specific target organ toxicity - repeated exposure	Not available.
Aspiration hazard	Not available.
Chronic effects	Prolonged inhalation may be harmful. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged exposure may cause chronic effects.
Further information	Symptoms may be delayed. This product has no known adverse effect on human health.

12. Ecological information

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

Product	Species	Test Results
FURALAC Resin (CAS Mixture)		
Fish	LC50	811.6125 mg/l, 96 hours estimated
Components	Species	Test Results
2-FURANCARBOXALDEHYDE (CAS 98-01-1)		
Aquatic		
Fish	LC50	Fathead minnow (Pimephales promelas) 13.4 - 19.3 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-FURANCARBOXALDEHYDE	0.41
FURFURYL ALCOHOL	0.28
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.
US RCRA Hazardous Waste U List: Reference	
2-FURANCARBOXALDEHYDE (CAS 98-01-1)	U125
Waste from residues / unused products	Avoid discharge into water courses or onto the ground.
Contaminated packaging	Not available.

14. Transport information

DOT	
UN number	UN2874

UN proper shipping name Furfuryl alcohol, solution
Transport hazard class(es)
Class 6.1(PGIII)
Subsidiary risk -
Label(s) 6.1
Packing group III
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Special provisions IB3, T4, TP1
Packaging exceptions 153
Packaging non bulk 203
Packaging bulk 241

IATA

UN number UN2874
UN proper shipping name Furfuryl Alcohol, Mixture
Transport hazard class(es)
Class 6.1(PGIII)
Subsidiary risk -
Packing group III
Environmental hazards No.
ERG Code 6L
Special precautions for user Not available.
Other information
Passenger and cargo aircraft Allowed.
Cargo aircraft only Allowed.

IMDG

UN number UN2874
UN proper shipping name Furfuryl Alcohol, Mixture
Transport hazard class(es)
Class 6.1(PGIII)
Subsidiary risk -
Packing group III
Environmental hazards
Marine pollutant No.
EmS F-A, S-A
Special precautions for user 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)

2-FURANCARBOXALDEHYDE (CAS 98-01-1) 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 - Yes
Fire Hazard - Yes
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-FURANCARBOXALDEHYDE (CAS 98-01-1)

FURFURYL ALCOHOL (CAS 98-00-0)

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

Not regulated.

US. Pennsylvania RTK - Hazardous Substances

2-FURANCARBOXALDEHYDE (CAS 98-01-1)

FURFURYL ALCOHOL (CAS 98-00-0)

US. Rhode Island RTK

2-FURANCARBOXALDEHYDE (CAS 98-01-1)

US. California Proposition 65

Not Listed.

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)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
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

Issue date	01-28-2015
Revision date	01-20-2016
Version #	02
Further information	HMIS® is a registered trade and service mark of the NPCA.
References	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
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: Product and Company Identification Physical & Chemical Properties: Multiple Properties Toxicological Information: Toxicological Data