

1. Identification

Product identifier	FURALAC™ FN Resin
Other means of identification	None.
Recommended use	Not available.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
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, inhalation	Category 3
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Carcinogenicity	Category 2
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, repeated exposure	Category 2
Environmental hazards	Not classified.	
OSHA defined hazards	Combustible dust	

Label elements



Signal word

Danger

Hazard statement

Combustible liquid. Toxic if swallowed or if inhaled. Causes skin irritation. Suspected of causing cancer. Causes serious eye irritation. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. 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. Do not breathe dust/fume/gas/mist/vapors/spray.

Response	If skin irritation occurs: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. If eye irritation persists: Get medical advice/attention. 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 INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Take off contaminated clothing and wash it before reuse. In case of fire: Use appropriate media for extinction.
Storage	Store in cool place. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	May form combustible dust concentrations in air.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Furaldehyde		98-01-1	10 - 20
FURFURYL ALCOHOL		98-00-0	5 - 15
Other components below reportable levels			75.92

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

US. ACGIH Threshold Limit Values

Components	Type	Value
Furaldehyde (CAS 98-01-1)	TWA	0.2 ppm
FURFURYL ALCOHOL (CAS 98-00-0)	TWA	0.2 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

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

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Furaldehyde (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

Furaldehyde (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

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

US - Tennessee OELs: Skin designation

Furaldehyde (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

Furaldehyde (CAS 98-01-1)	Danger of cutaneous absorption
FURFURYL ALCOHOL (CAS 98-00-0)	Danger of cutaneous absorption

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

FURFURYL ALCOHOL (CAS 98-00-0)	Can be absorbed through the skin.
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US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Furaldehyde (CAS 98-01-1)	Can be absorbed through the skin.
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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.
Skin protection	
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.
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	6.8
Melting point/freezing point	Not available.
Initial boiling point and boiling range	323.6 °F (162 °C)
Flash point	179.6 °F (82.0 °C) Pensky-Martens Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	1.8 % v/v
	1.8 %
Explosive limit - upper (%)	19.3 % v/v
	16.3 %
Vapor pressure	2.94 hPa
Vapor density	Not available.
Relative density	1.21
Relative density temperature	77 °F (25 °C)
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
VOC	92.74 % estimated

10. Stability and reactivity

Reactivity	Not available.
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Chemical stability	Material is stable under normal conditions. However, this material can undergo hazardous polymerization.
Possibility of hazardous reactions	Hazardous polymerization can occur. 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

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.
Ingestion	Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Not available.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Furaldehyde (CAS 98-01-1)		
<u>Acute</u>		
Oral		
LD50	Rat	127 mg/kg
FURFURYL ALCOHOL (CAS 98-00-0)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	400 mg/kg
Oral		
LD50	Rat	275 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 Suspect Cancer Hazard.

IARC Monographs. Overall Evaluation of Carcinogenicity

Furaldehyde (CAS 98-01-1)	3 Not classifiable as to carcinogenicity to humans.
FURFURYL ALCOHOL (CAS 98-00-0)	2B Possibly carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure Not available.

Specific target organ toxicity Not available.

- repeated exposure

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™ FN Resin		
Aquatic		
Fish	LC50	813.1132, 96 hours
<i>Acute</i>		
Fish	LC50	79.6671, 96 hours estimated
Components	Species	Test Results
Furaldehyde (CAS 98-01-1)		
Aquatic		
<i>Acute</i>		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) >= 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)	
Furaldehyde	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.

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

Contaminated packaging Not available.

14. Transport information

DOT	
UN number	UN2810
UN proper shipping name	Toxic, liquids, organic, n.o.s. (FURFURYL ALCOHOL)
Transport hazard class(es)	
Class	6.1
Subsidiary risk	-
Label(s)	6.1
Packing group	III
Special precautions for user	Not available.
Special provisions	IB3, T7, TP1, TP28
Packaging exceptions	153
Packaging non bulk	203
Packaging bulk	241

IATA	
UN number	UN2810
UN proper shipping name	Toxic liquid, organic, n.o.s.
Transport hazard class(es)	
Class	6.1

Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	6L
Special precautions for user	Not available.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

IMDG

UN number	UN2810
UN proper shipping name	TOXIC LIQUID, ORGANIC, N.O.S.
Transport hazard class(es)	
Class	6.1
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.

Toxic Substances Control Act (TSCA)

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Furaldehyde (CAS 98-01-1) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)**SARA 302 Extremely hazardous substance**

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories

Flammable (gases, aerosols, liquids, or solids)
 Combustible dust
 Acute toxicity (any route of exposure)
 Skin corrosion or irritation
 Serious eye damage or eye irritation
 Carcinogenicity
 Specific target organ toxicity (single or repeated exposure)

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.**FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace**

Furaldehyde (CAS 98-01-1) High priority
 FURFURYL ALCOHOL (CAS 98-00-0) Low priority

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. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

FURFURYL ALCOHOL (CAS 98-00-0)

California Proposition 65**California Proposition 65 - CRT: Listed date/Carcinogenic substance**

FURFURYL ALCOHOL (CAS 98-00-0) Listed: September 30, 2016

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	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)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	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 05-17-2022

Version #	01
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: Alternate Trade Names Hazard(s) identification: Response Hazard(s) identification: Storage Hazard(s) identification: Supplemental information Composition / Information on Ingredients: Ingredients Toxicological information: Acute toxicity GHS: Classification