

**1. Identification**

<b>Product identifier</b>	<b>TUFCHEM II MEMBRANE - REGULAR GRADE RESIN PART A</b>	
<b>Other means of identification</b>	None.	
<b>Recommended use</b>	Not available.	
<b>Recommended restrictions</b>	None known.	
<b>Manufacturer/Importer/Supplier/Distributor information</b>		
<b>Company Name</b>	ErgonArmor, a division of Ergon Asphalt & Emulsions, Inc.	
<b>Address</b>	2829 Lakeland Drive Jackson, MS 39232 USA	
<b>After hours telephone number</b>	1-800-222-7122	
<b>Normal work hours telephone number</b>	1-877-982-7667	
<b>Website</b>	www.ergonarmor.com	
<b>E-mail</b>	sds@ergon.com	
<b>Emergency 24-hour telephone number</b>	CHEMTREC: North America 1-800-424-9300 International 1-800-527-3887	
<b>Information on operation hours</b>	8:00 a.m. to 5:00 p.m.	

**2. Hazard(s) identification**

<b>Physical hazards</b>	Flammable liquids	Category 3
<b>Health hazards</b>	Skin corrosion/irritation	Category 2
	Germ cell mutagenicity	Category 1
	Carcinogenicity	Category 1
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
<b>Environmental hazards</b>	Not classified.	
<b>OSHA defined hazards</b>	Not classified.	
<b>Label elements</b>		



<b>Signal word</b>	Danger
<b>Hazard statement</b>	May cause genetic defects. May cause cancer. Flammable liquid and vapor. Causes skin irritation. May cause drowsiness or dizziness.
<b>Precautionary statement</b>	
<b>Prevention</b>	Wear protective gloves/protective clothing/eye protection/face protection. 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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Use only non-sparking tools. Ground/bond container and receiving equipment. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area.
<b>Response</b>	If exposed or concerned: Call a poison center/doctor. Specific treatment see Section 4 of this SDS. In case of fire: Use appropriate media for extinction. If skin irritation occurs, seek medical advice/attention. Take off contaminated clothing and wash before reuse. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF ON SKIN: Wash with plenty of soap and water.

<b>Storage</b>	Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations. See section 13 of this SDS for disposal instructions.
<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	%
ASPHALT		8052-42-4	30 - 40
NAPHTHA (PETROLEUM), HYDROTREATED HEAVY		64742-48-9	20 - 30
Limestone		1317-65-3	0 - 40
BENZENE		71-43-2	<1
QUARTZ		14808-60-7	< 1
POLYETHYLENE		9002-88-4	< 0.2
Other components below reportable levels			20 - < 30

### 4. First-aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention, if needed.
<b>Skin contact</b>	For hot product, immediately immerse in or flush the affected area with large amounts of cold water to dissipate heat. For minor skin contact, avoid spreading material on unaffected skin. Wash off with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth thoroughly. Call a POISON CENTER or doctor/physician. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
<b>Most important symptoms/effects, acute and delayed</b>	Not available.
<b>Indication of immediate medical attention and special treatment needed</b>	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	IF exposed or concerned: Get medical advice/attention. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Get medical attention if symptoms occur. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Foam. Carbon dioxide (CO2). Water fog. Dry chemical powder.
<b>Unsuitable extinguishing media</b>	Do not use water jet.
<b>Specific hazards arising from the chemical</b>	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. Structural firefighters protective clothing will only provide limited protection.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Move containers from fire area if you can do so without risk. Do not get water inside container. Some of these materials, if spilled, may evaporate leaving a flammable residue.

**Specific methods**

In the event of fire and/or explosion do not breathe fumes.

**6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

Remove sources of ignition. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not touch or walk through spilled material.

**Methods and materials for containment and cleaning up**

Dike far ahead of spill for later disposal. Cover with DRY earth, DRY sand, or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Collect spillage. Prevent product from entering drains.

Never return spills in original containers for re-use.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not contaminate water.

**7. Handling and storage****Precautions for safe handling**

Avoid heat, sparks, open flames and other ignition sources. Avoid breathing dust/fume/gas/mist/vapors/spray. Wear personal protective equipment. Do not use in areas without adequate ventilation. Avoid prolonged exposure. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Do not empty into drains. Hydrogen sulfide, a very highly toxic gas, may be present with this material. Keep face clear of tank and/or tank car openings.

**Conditions for safe storage, including any incompatibilities**

Store in a well-ventilated place. Keep container closed. Keep container dry. Keep away from food, drink and animal feedingstuffs. Keep out of reach of children. Use care in handling/storage.

**8. Exposure controls/personal protection****Occupational exposure limits****US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Components	Type	Value
BENZENE (CAS 71-43-2)	STEL	5 ppm
	TWA	1 ppm

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

Components	Type	Value	Form
Limestone (CAS 1317-65-3)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
QUARTZ (CAS 14808-60-7)	PEL	0.05 mg/m3	Respirable dust.

**US. OSHA Table Z-2 (29 CFR 1910.1000)**

Components	Type	Value
BENZENE (CAS 71-43-2)	Ceiling	25 ppm
	TWA	10 ppm

**US. OSHA Table Z-3 (29 CFR 1910.1000)**

Components	Type	Value	Form
POLYETHYLENE (CAS 9002-88-4)	TWA	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
		50 mppcf	Total dust.
		15 mppcf	Respirable fraction.
QUARTZ (CAS 14808-60-7)	TWA	0.1 mg/m3	Respirable.
		2.4 mppcf	Respirable.

**US. ACGIH Threshold Limit Values**

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	TWA	0.5 mg/m3	Inhalable fume.
BENZENE (CAS 71-43-2)	STEL	2.5 ppm	
	TWA	0.5 ppm	
QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m3	Respirable fraction.

**US. NIOSH: Pocket Guide to Chemical Hazards Components**

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	Ceiling	5 mg/m3	Fume.
BENZENE (CAS 71-43-2)	STEL	1 ppm	
	TWA	0.1 ppm	
Limestone (CAS 1317-65-3)	TWA	5 mg/m3	Respirable.
		10 mg/m3	Total
QUARTZ (CAS 14808-60-7)	TWA	0.05 mg/m3	Respirable dust.

**Biological limit values****ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
BENZENE (CAS 71-43-2)	25 µg/g	S-Phenylmercapturic acid	Creatinine in urine	*

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

**Exposure guidelines****US - California OELs: Skin designation**

BENZENE (CAS 71-43-2) Can be absorbed through the skin.

**US ACGIH Threshold Limit Values: Skin designation**

BENZENE (CAS 71-43-2) 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 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**

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

**Thermal hazards**

Not available.

**General hygiene considerations**

When using do not smoke. When using, do not eat, drink or smoke. Avoid contact with eyes. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

**9. Physical and chemical properties**

<b>Appearance</b>	Black liquid
<b>Physical state</b>	Liquid.
<b>Form</b>	Semi-solid at ambient temperature
<b>Color</b>	Black
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	300 - 360 °F (148.89 - 182.22 °C)
<b>Flash point</b>	100.0 - 140.0 °F (37.8 - 60.0 °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>	Not available.
<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>Specific gravity</b>	1 - 1.05
<b>VOC</b>	< 200 g/l

## 10. Stability and reactivity

<b>Reactivity</b>	Not Reactive
<b>Chemical stability</b>	Stable under normal temperature conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Heat, flames and sparks.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Irritants. Toxic gas.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea
<b>Skin contact</b>	Causes skin irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
<b>Eye contact</b>	May be irritating to eyes.
<b>Ingestion</b>	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

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

### Information on toxicological effects

<b>Acute toxicity</b>	Not classified.
<b>Skin corrosion/irritation</b>	Causes skin irritation.
<b>Serious eye damage/eye irritation</b>	May be irritating to eyes.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not available.
<b>Skin sensitization</b>	Not a skin sensitizer.
<b>Germ cell mutagenicity</b>	May cause genetic defects.
<b>Carcinogenicity</b>	May cause cancer.

### IARC Monographs. Overall Evaluation of Carcinogenicity

ASPHALT (CAS 8052-42-4)	2B Possibly carcinogenic to humans.
BENZENE (CAS 71-43-2)	1 Carcinogenic to humans.

POLYETHYLENE (CAS 9002-88-4)

3 Not classifiable as to carcinogenicity to humans.

QUARTZ (CAS 14808-60-7)

1 Carcinogenic to humans.

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

BENZENE (CAS 71-43-2)

Cancer

QUARTZ (CAS 14808-60-7)

Cancer

**US. National Toxicology Program (NTP) Report on Carcinogens**

BENZENE (CAS 71-43-2)

Known To Be Human Carcinogen.

QUARTZ (CAS 14808-60-7)

Known To Be Human Carcinogen.

- Reproductive toxicity** Not classified.
- Specific target organ toxicity - single exposure** May cause drowsiness or dizziness.
- Specific target organ toxicity - repeated exposure** Not classified.
- Aspiration hazard** Not classified.
- Chronic effects** Prolonged exposure may cause chronic effects.

**12. Ecological information**

**Ecotoxicity** Components of this product are hazardous to aquatic life. Accumulation in aquatic organisms is expected. Not expected to be harmful to aquatic organisms.

Product	Species		Test Results
TUFCEM II MEMBRANE - REGULAR GRADE RESIN PART A			
<b>Aquatic</b>			
Crustacea	EC50	Daphnia	12244.0615 mg/l, 48 hours estimated
Fish	LC50	Fish	50774.9375 mg/l, 96 hours estimated
Components	Species		Test Results
BENZENE (CAS 71-43-2)			
<b>Aquatic</b>			
Crustacea	EC50	Water flea (Daphnia magna)	8.76 - 15.6 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	7.2 - 11.7 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)**

BENZENE 2.13

- Mobility in soil** Not available.
- Other adverse effects** Not available.

**13. Disposal considerations**

- Disposal instructions** Contract with a disposal operator licensed by the Law on Disposal and Cleaning. Dispose of this material and its container to hazardous or special waste collection point. If discarded, this product is considered a RCRA ignitable waste, D001. Dispose of contents/container in accordance with local/regional/national/international regulations. Dispose in accordance with all applicable regulations.
- Hazardous waste code** D001: Waste Flammable material with a flash point <140 F
- Waste from residues / unused products** Dispose of in accordance with local regulations.
- Contaminated packaging** Offer rinsed packaging material to local recycling facilities.

**14. Transport information**

- DOT**
- UN number** UN1999
- UN proper shipping name** Tars, liquid including road oils and cut back bitumens
- Transport hazard class(es)**
- Class** Combustible Liquid

<b>Subsidiary risk</b>	-
<b>Label(s)</b>	3
<b>Packing group</b>	III
<b>Special precautions for user</b>	If shipped by ground in quantities LESS than 119 gallons (450 L): Not regulated as a hazardous material.
<b>Special provisions</b>	B1, B13, IB3, T1, TP3
<b>Packaging exceptions</b>	150
<b>Packaging non bulk</b>	203
<b>Packaging bulk</b>	242

#### IATA

<b>UN number</b>	UN1999
<b>UN proper shipping name</b>	Tars, liquid including road asphalt and oils, bitumen and cut backs
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	3L
<b>Special precautions for user</b>	Not available.
<b>Other information</b>	
<b>Passenger and cargo aircraft</b>	Allowed with restrictions.
<b>Cargo aircraft only</b>	Allowed with restrictions.

#### IMDG

<b>UN number</b>	UN1999
<b>UN proper shipping name</b>	TARS, LIQUID including road oils, and cutback bitumens
<b>Transport hazard class(es)</b>	
<b>Class</b>	3
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-E, S-E
<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.

#### IATA; IMDG



#### Further information

If shipped by ground in quantities LESS than 119 gallons (450 L): Not regulated as a hazardous material. If shipped by vessel in individual containers that are less than 7.9 gallons (30 L) each, then IMDG 2.3.2.5 exception applies: Not regulated as a hazardous material.

## 15. Regulatory information

#### US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard 29 CFR 1910.1200.  
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)**

BENZENE (CAS 71-43-2) Listed.

**SARA 304 Emergency release notification**

Not regulated.

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

BENZENE (CAS 71-43-2)	Cancer
QUARTZ (CAS 14808-60-7)	Cancer
BENZENE (CAS 71-43-2)	Central nervous system
QUARTZ (CAS 14808-60-7)	lung effects
BENZENE (CAS 71-43-2)	Blood
QUARTZ (CAS 14808-60-7)	immune system effects
BENZENE (CAS 71-43-2)	Aspiration
QUARTZ (CAS 14808-60-7)	kidney effects
BENZENE (CAS 71-43-2)	Skin
	Eye
	respiratory tract irritation
	Flammability

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

Not listed.

**SARA 311/312** Yes  
**Hazardous chemical**

<b>Classified hazard categories</b>	Flammable (gases, aerosols, liquids, or solids)
	Acute toxicity (any route of exposure)
	Skin corrosion or irritation
	Serious eye damage or eye irritation
	Germ cell mutagenicity
	Carcinogenicity
	Specific target organ toxicity (single or repeated exposure)
	Aspiration hazard
	Hazard not otherwise classified (HNOC)

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
BENZENE	71-43-2	<1

**Other federal regulations****Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

BENZENE (CAS 71-43-2)

**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** WARNING: This product contains a chemical known to the State of California to cause cancer.**California Proposition 65****California Proposition 65 - CRT: Listed date/Carcinogenic substance**

BENZENE (CAS 71-43-2)	Listed: February 27, 1987
QUARTZ (CAS 14808-60-7)	Listed: October 1, 1988

**California Proposition 65 - CRT: Listed date/Developmental toxin**

BENZENE (CAS 71-43-2)	Listed: December 26, 1997
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**California Proposition 65 - CRT: Listed date/Male reproductive toxin**

BENZENE (CAS 71-43-2)	Listed: December 26, 1997
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**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

ASPHALT (CAS 8052-42-4)
BENZENE (CAS 71-43-2)
NAPHTHA (PETROLEUM), HYDROTREATED HEAVY (CAS 64742-48-9)
QUARTZ (CAS 14808-60-7)



## 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)	Yes
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** 02-20-2017

**Revision date** 09-30-2019

**Version #** 06

**Further information** HMIS® is a registered trade and service mark of the NPCA.

**NFPA ratings**  
Health: 2  
Flammability: 2  
Instability: 0

**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**  
Physical & Chemical Properties: Multiple Properties  
GHS: Classification