

1. Identification

Product identifier	TUFCHEM™ II MEMBRANE - REGULAR GRADE RESIN PART A
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 3
Health hazards	Skin corrosion/irritation	Category 2
	Germ cell mutagenicity	Category 1
	Carcinogenicity	Category 1
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
Environmental hazards	Not classified.	
OSHA defined hazards	Not classified.	

Label elements


Signal word Danger

Hazard statement May cause cancer. May cause genetic defects. Flammable liquid and vapor. Causes skin irritation. May cause drowsiness or dizziness.

Precautionary statement
Prevention

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.

Response

If skin irritation occurs: Get medical advice/attention. 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. 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.

Storage

Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.

Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations. See section 13 of this SDS for disposal instructions.
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	%
ASPHALT		8052-42-4	30 - 40
NAPHTHA (PETROLEUM), HYDROTREATED HEAVY (MINERAL SPIRITS)		64742-48-9	20 - 30
BENZENE		71-43-2	< 1
QUARTZ		14808-60-7	< 1
Other components below reportable levels			39.22

4. First-aid measures

Inhalation	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.
Skin contact	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.
Eye contact	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.
Ingestion	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.
Most important symptoms/effects, acute and delayed	Not available.
Indication of immediate medical attention and special treatment needed	In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	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

Suitable extinguishing media	Foam. Carbon dioxide (CO2). Water fog. Dry chemical powder.
Unsuitable extinguishing media	Do not use water jet.
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. Structural firefighters protective clothing will only provide limited protection.
Fire fighting equipment/instructions	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. Move container from fire area if it can be done without risk.

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 locked up. Store in a well-ventilated place. Keep containers tightly 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
QUARTZ (CAS 14808-60-7)	PEL	0.05 mg/m ³	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
QUARTZ (CAS 14808-60-7)	TWA	0.1 mg/m ³	Respirable.
		2.4 mppcf	Respirable.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
ASPHALT (CAS 8052-42-4)	TWA	0.5 mg/m ³	Inhalable fume.
BENZENE (CAS 71-43-2)	STEL	2.5 ppm	
	TWA	0.5 ppm	
QUARTZ (CAS 14808-60-7)	TWA	0.025 mg/m ³	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

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

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
BENZENE (CAS 71-43-2)	25 µg/g	S-Phenylmercap- turic 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) Danger of cutaneous absorption

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.

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 eat, drink or smoke. Avoid contact with clothing. 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

Appearance

Black liquid

Physical state

Liquid.

Form

Semi-solid at ambient temperature

Color

Black

Odor

Not available.

Odor threshold

Not available.

pH

Not available.

Melting point/freezing point

Not available.

Initial boiling point and boiling range

300 - 360 °F (148.89 - 182.22 °C)

Flash point

100.0 - 140.0 °F (37.8 - 60.0 °C)

Evaporation rate

Not available.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure

Not available.

Vapor density

Not available.

Relative density

Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature

Not available.

Decomposition temperature

Not available.

Viscosity Not available.

Other information

Specific gravity 1 - 1.05
VOC < 200 g/l

10. Stability and reactivity

Reactivity The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability Stable under normal temperature conditions.
Possibility of hazardous reactions Hazardous polymerization does not occur.
Conditions to avoid Heat, flames and sparks.
Incompatible materials Strong oxidizing agents.
Hazardous decomposition products Irritants. Toxic gas.

11. Toxicological information

Information on likely routes of exposure

Inhalation Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
Skin contact Causes skin irritation. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis.
Eye contact May be irritating to eyes.
Ingestion 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

Acute toxicity Not classified.

Product	Species	Test Results
TUFCHEM™ II MEMBRANE - REGULAR GRADE RESIN PART A		
Acute		
Oral		
LD50	Rat	848000 mg/kg

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

Skin corrosion/irritation Causes skin irritation.
Serious eye damage/eye irritation May be irritating to eyes.

Respiratory or skin sensitization

Respiratory sensitization Not available.
Skin sensitization Not a skin sensitizer.
Germ cell mutagenicity May cause genetic defects.
Carcinogenicity 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.
NAPHTHA (PETROLEUM), HYDROTREATED HEAVY (MINERAL SPIRITS) (CAS 64742-48-9) 3 Not classifiable as to carcinogenicity to humans.
QUARTZ (CAS 14808-60-7) 1 Carcinogenic to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

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
TUFICHEM™ II MEMBRANE - REGULAR GRADE RESIN PART A		
Aquatic		
Crustacea	EC50 Daphnia	12244.0615, 48 hours
Fish	LC50 Fish	50774.9375, 96 hours
<i>Acute</i>		
Crustacea	EC50 Daphnia	3649.5254, 48 hours estimated
Fish	LC50 Fish	2450.895, 96 hours estimated
Components		
BENZENE (CAS 71-43-2)		
Aquatic		
<i>Acute</i>		
Crustacea	EC50 Water flea (Daphnia magna)	>= 8.76 - <= 15.6 mg/l, 48 hours
Fish	LC50 Rainbow trout,donaldson trout (Oncorhynchus mykiss)	5.9, 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	3
Subsidiary risk	-
Label(s)	3
Packing group	III
Special precautions for user	If shipped by ground in quantities LESS than 119 gallons (450 L): Not regulated as a hazardous material.

Special provisions	B1, B13, IB3, T1, TP3
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	242

IATA

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

IMDG

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



General 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.

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)

ASPHALT (CAS 8052-42-4) Listed.
BENZENE (CAS 71-43-2) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

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 Hazardous chemical

Yes

Classified hazard categories Flammable (gases, aerosols, liquids, or solids)
Skin corrosion or irritation
Germ cell mutagenicity
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

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 chemicals known to the State of California to cause cancer and reproductive harm.

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 (MINERAL SPIRITS) (CAS 64742-48-9)
QUARTZ (CAS 14808-60-7)

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

California Proposition 65 - CRT: Listed date/Male reproductive toxin

BENZENE (CAS 71-43-2)

Listed: December 26, 1997

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** 07-18-2022**Revision date** 08-02-2022**Version #** 02**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**
Product and Company Identification: Alternate Trade Names
Hazard(s) identification: Response
Hazard(s) identification: GHS Signal Words
Physical & Chemical Properties: Multiple Properties
Transport information: General information
HazReg Data: International Inventories