

ERGON ARMOR

BH5910

MSDS No. EA098

Date of Preparation: **June 17, 2010**

Revision No. 1

Section 1 – Chemical Product and Company Information

Product/Chemical Name:	BH5910
Chemical Formula:	Mixture
CAS Number:	Mixture
Other Designations:	Asphalt-based sealant modifier
General Use:	Asphalt sealant modifier or stand alone sealant
Manufacturer:	Ergon Armor, 450 Funston, Kansas City, Kansas 66115, (913) 371-8555; Hours of Operation 8:00 am – 5:00 pm; ERGON 24 Hour Emergency Phone Number 1-800-222-7122; CHEMTREC 1-800-424-9300.

Section 2 – Composition / Information on Ingredients

Ingredient Name	CAS Number	% Vol
Asphalt Cement (PG 64-22)	8052-42-4 (fumes)	3-60
Severely Hydrotreated Heavy Naphthenic Petroleum Oil	64742-52-5	12-74
1,2 – benzenedicarboxylic acid, diisooctyl ester	27554-26-3	23-62
Styrene-Butadiene Block Copolymer	9003-55-8	10-20

INGREDIENT	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDHL
	TWA	STEL	TWA	STEL	TWA	STEL	
Asphalt Cement (PG 64-22)	None estab.	None estab.	0.5 mg/m ³ (inhalable fraction, as benzene-soluble aerosol)	None estab.	None estab.	5 mg/m ³ (ceiling)	None estab.
Severely Hydrotreated Heavy Naphthenic Petroleum Oil	5 mg/m ³ (Oil Mist)	None estab.	5 mg/m ³ (Oil Mist)	10 mg/m ³ (Oil Mist) (ceiling)	5 mg/m ³ (Oil Mist)	10 mg/m ³ (Oil Mist) (ceiling)	2,500 mg/m ³ (Oil Mist)
1,2 – benzenedicarboxylic acid, diisooctyl ester *	None estab.	None estab.	None estab.	None estab.	None estab.	None estab.	None estab.
Styrene-Butadiene Block Copolymer	None estab.	None estab.	None estab.	None estab.	None estab.	None estab.	None estab.

* 5 mg/m³ TWA recommended by manufacturer if used as aerosol

Section 3 – Hazards Information

EMERGENCY OVERVIEW		HMIS H-1 F-1 R-0 PPE* * Sec.8
<p>POTENTIAL HEALTH EFFECTS</p> <p>Primary Entry Routes: Inhalation, ingestion, and absorption.</p> <p>Target Organs: Skin, Eye, Lung, Liver, Kidney, Nervous system.</p> <p>Acute Effects</p> <p>Inhalation: Exposure to product fumes, vapor and dust may result in irritation to the respiratory tract. Prolonged exposure in excess of the permissible exposure air concentrations may result in acute toxic effects such as respiratory difficulty, convulsions, central nervous system effects and possible cardiovascular collapse.</p>		

Section 3 continued on next page....

Section 3 – Hazards Information - Continued

Eye: Exposure to product fumes, vapors or mists may cause irritation. Liquid exposure may cause irritation. Symptoms may include a burning sensation, intolerance to light, redness/swelling/tearing, and

ERGON ARMOR

BH5910

MSDS No. EA098

Date of Preparation: June 17, 2010

Revision No. 1

possible erosion of the surface of the cornea. Direct contact with hot material will cause thermal burns and possible blindness.

Skin: Skin contact may cause irritation which when accentuated by sunlight may result in a phototoxic reaction. Prolonged and repeated liquid contact may result in dermatitis, folliculitis, oil acne or skin tumors. Absorption through the skin may cause liver damage. Contact with hot material will cause thermal burns.

Ingestion: None expected. Ingestion of hot material will cause thermal burn. Ingestion may cause irritation of the gastrointestinal tract followed by one or more of the following: nausea, vomiting, blockage, and diarrhea.

Carcinogenicity: The International Agency for Research on Cancer (IARC), the National Toxicology Material Program (NTP), the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) have determined that there is significant evidence that coal tar products are carcinogenic in humans and animals and aromatic oils are carcinogenic in animals. IARC and NTP have concluded that certain polycyclic aromatic hydrocarbons (i.e. Chrysene, Benz(a)Anthracene and Flouranthene) are probably carcinogenic in humans (Group 2B).

Medical Conditions Aggravated by Long-Term Exposure: Individuals with chronic respiratory or pre-existing skin disorders may be adversely affected by exposure to product fumes, vapors or mists. Persons with a history of liver disease, kidney disease or central nervous system depression are at a greater than normal risk of developing adverse health effects when working with this product.

Chronic Effects: Inhalation of fumes, vapors or mists over a prolonged period of time may present a lung cancer hazard. Prolonged and repeated skin contact in the absence of recommended hygiene practices may cause oil acne, folliculitis, and more serious skin disorders (i.e. changes in skin pigmentation, ulcerations, benign skin growths, skin cancer).

Section 4 – First Aid Measures

Inhalation: Remove to fresh air. Apply artificial respiration if needed. Seek medical attention.

Eye Contact: Flush thoroughly with water for at least 15 minutes. If burning persists seek medical attention.

Skin Contact: If molten asphalt strikes the exposed skin, cool the skin immediately by quenching with cold water. Wash thoroughly with soap and water. Do not use harsh solvents to remove asphalt from skin. Lotion or hand cream may aid in the removal of asphalt. Cover with a sterile dressing. Seek medical attention if needed.

Ingestion: Do not induce vomiting and seek medical help.

After first aid, get appropriate in-plant paramedic or community medical support.

Special Precautions/Procedures: The petroleum hydrocarbons in this product are a complex mixture of paraffinic, naphthenic, and aromatic hydrocarbons. As with other petroleum products, the aromatic compounds are present in varying concentrations and structures. Some of these compounds may be those which have been shown to result in tumor formation in animals under laboratory conditions. The concentrations of aromatic compounds in this product require that the precautions outlined in this MSDS be followed to minimize personnel exposure.

Provide adequate ventilation to keep vapors below allowable exposure levels. Use PPE appropriate for the task.

Section 5 – Fire Fighting Measures

Flash Point: 410 °F (210 °C)
Flash Point Method: COC
Ignition Temperature: >444 °F (>229 °C)
LEL: Not available
UEL: Not available



Flammability Classification: Class II
Extinguishing Media: CO₂, dry chemical foam and water spray.
Unusual Fire or Explosion Hazards: Material is not a combustible liquid per the OSHA Hazard Communication Standard, but will ignite and burn at temperatures exceeding the flash point. Closed containers may explode when exposed to extreme heat. Water spray may cause frothing.
Hazardous Combustion Products: Carbon monoxide, carbon dioxide, and sulfur dioxide.
Fire-Fighting Instructions: Use of foam or water may cause frothing. Do not release runoff from fire control methods to sewers or waterways. Use a water supply to cool fire-exposed containers.
Fire-Fighting Equipment: Use self-contained breathing apparatus in enclosed areas where heavy smoke may occur.

Section 6 – Accidental Release Matters

Spill/Leak Procedures: Stop spill at source if possible without hazard. Remove sources of heat or ignition. Avoid breathing vapors, mists or fumes. Avoid skin contact. Cleanup personnel should be provided with appropriate clothing. Contain spilled material by diking/berming with absorbent solids such as sand or soil. Do not release runoff into sewers or waterways. In cases involving release to the environment such as a waterway of the United States, contact the National Response Center at 1-800-424-8802. In Canada, report releases to the appropriate Provincial authorities.

Small Spills: Stop spill at source if possible. Isolate and confine by diking, or similar method. Remove discharged material.

Large Spills:

Containment: For large spills, dike far ahead of liquid spill for later disposal. Do not release into sewers or waterways.

Cleanup: Allow material to cool. Mix with inert absorbent material such as soil, sand, or oil dry, to stabilize.

Regulatory Requirements: Notify local health and pollution control agencies as appropriate. Follow applicable OSHA regulations (29 CFR 1900.120). This material is not a hazardous waste as defined in RCRA. For disposal follow all federal, state, and local regulations regarding solid waste.

Section 7 – Handling and Storage

Handling Precautions: Do not store near heat or flame. Use protective gloves when handling molten material. Use with adequate ventilation. Hydrogen sulfide may be emitted, from heated asphalt and may accumulate in storage tanks, and bulk transport containers. Exercise good personal hygiene including the removal of contaminated clothing and prompt washing with soap and water.

Storage Requirements: Ground and bond all transfer and storage equipment. Ventilation is required only in enclosed areas where the emulsion is subjected to severe conditions of heat or agitation.

Regulatory Requirements: None known.

Section 8 – Exposure Controls / Personal Protection

Engineering Controls: Not applicable.

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Section 8 continued on next page....

Section 8 – Exposure Controls / Personal Protection - Continued

Respiratory Protection: Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Self-contained, positive-pressure breathing apparatus when used in confined or enclosed space or when exposure limits are exceeded or hydrogen sulfide is unknown or exceeds 20 ppm. Organic vapor respirators can be used with good ventilation when organic vapors are less than 1000 ppm or ten times permissible exposure limit, whichever is less. For emergency or nonroutine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes: procedures for selecting respirators; medical evaluation; fit testing; use in routine and emergency situations; cleaning, disinfecting, storing, inspecting, repairing, discarding and maintaining respirators; adequate air quality, quantity and flow; training in respiratory hazards; training in use of respirators; evaluation of effectiveness of respiratory program.

Protective Clothing/Equipment: Wear protective gloves, boots, aprons, and gauntlets as need to prevent prolonged or repeated skin contact. Goggles and face shields should be used in areas where splashing may occur. Wear protective eyeglasses or safety goggles per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

Safety Stations: Make emergency eyewash stations, safety/quick-drench showers, and washing facilities available in work area.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, or smoking.

Section 9 – Physical and Chemical Properties

Physical State: Viscous Liquid	Water Solubility: Negligible.
Appearance and Odor: Dark brown gel with faint petroleum odor	Other Solubilities: No data.
Odor Threshold: Tar odor	Boiling Point: > 600 °F
Vapor Pressure: <1 mm Hg at 70 °F (20 °C)	Freezing/Melting Point: No data.
Vapor Density (Air = 1): >1	Viscosity: No data.
Formula Weight: Est. 250 lb/lb-mole	Refractive Index: No data.
Density: 8.42 lb/gal	Surface Tension: No data.
Specific Gravity (H₂O = 1, at 4 °C): 1.01	% Volatile: No data.
pH: No data	Evaporation Rate: <1

Section 10 – Stability and Reactivity

Stability: Asphalt Emulsions are stable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: Hazardous polymerization cannot occur.

Chemical Incompatibilities: Strong oxidizing agents; Cationic emulsions.

Conditions to Avoid: Do not overheat product.

Hazardous Decomposition Products: Primary decomposition products are carbon monoxide, carbon dioxide, and water. Combustion products may include sulfur oxides and hydrogen sulfide.

Section 11 – Toxicological Information

Eye Effects: Vapors may cause a slight smarting of the eyes or respiratory system if present in high concentrations. The effect is temporary.
Acute Inhalation Effects: Human, inhalation, TC_{LO}: No data.
Carcinogenicity: Not a known human carcinogen.
Teratogenicity: No data.
Chronic Effects: Prolonged and repeated skin contact may cause dermatitis, photosensitization, and melanosis. Evidence from animal studies suggest that asphalt left on the skin for long periods of time may result in local carcinomas, but there have been no reports of such effects on humans skin that can be attributed to asphalt alone.

Skin Effects: Causes smarting of the skin and first-degree burns on short exposure; may cause secondary burns on long exposure.
Acute Oral Effects: Rat, oral, LD₅₀: 5 to 15 g/kg
Mutagenicity: No data.

Section 12 – Ecological Information

Ecotoxicity: No data.
Environmental Fate:
Environmental Transport: No data.
Environmental Degradation: No data.
Soil Absorption/Mobility: No data.

Section 13 – Disposal Considerations

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.
Disposal Regulatory Requirements: Solidified waste material should not be a hazardous waste under RCRA guidelines. Follow Federal, state, and local regulations for disposal of solid waste.
Container Cleaning and Disposal: Recommend using a non-hazardous solvent to remove the product. Follow Federal, state, and local regulations for disposal of the waste material, regardless of its waste classification.

Section 14 – Transport Information

Ambient Temperature Material (Solid)

Shipping Name: Not Regulated	Packaging Authorizations:	Quantity Limitations:
	a) Exceptions: NA	a) Passenger, Aircraft, or Railcar: NA
Shipping Symbols: NA	b) Non-bulk Packaging: NA	b) Cargo Aircraft Only: NA
Hazard Class: NA	c) Bulk Packaging: NA	
ID No.: NA		Vessel Stowage Requirements:
Label: NA		a) Vessel Stowage: NA
Special Provisions (172.102): NA		b) Other: NA

Section 15 – Regulatory Information

EPA Regulations:
RCRA
 RCRA Hazardous Waste Number: Not listed.
 RCRA Hazardous Waste Classification (40 CFR 261): Solidified waste material should not be a hazardous waste. However, waste material should be tested for the characteristic of ignitibility.
CERCLA
 CERCLA: Not listed.
 CERCLA Reportable Quantity (RQ): This material is not a listed hazardous substance and does not have a reportable quantity. However, if spilled into waters of the U.S., it may be reportable under

ERGON ARMOR

BH5910

MSDS No. EA098

Date of Preparation: **June 17, 2010**

Revision No. 1

the Clean Water Act.

SARA (< 10,000 lb)

SARA 311/312 Codes: Not Listed

SARA Toxic Chemical: Not listed.

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed.

If 10,000 lb or more:

8052-42-4

SARA Section 312/Tier I & II Hazard Categories:

Fire hazard: Yes, Immediate (acute) health hazard: Yes, Delayed (chronic) health hazard: Yes

64742-52-5

SARA Section 312/Tier I & II Hazard Categories:

Fire hazard: No, Pressure Generating: No, Reactivity: No, Acute health hazard: No, Chronic health hazard: Yes

9003-55-8

SARA Section 312/Tier I & II Hazard Categories:

Fire hazard: No, Pressure Generating: No, Reactivity: No, Acute health hazard: Yes, Chronic health hazard: Yes

OSHA Regulations

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): See Table in Section 2.

OSHA Specifically Regulated Substance: No

State Regulations: Listed in state hazardous substance list for CA and MN as Asphalt (petroleum fumes; FL, MA, NJ, as Asphalt fumes; and PA as Asphalt.

Section 16 – Other Information

Revision Notes:

Additional Hazard Rating Systems: NAS Hazard Rating for Bulk Water Transportation of asphalt:

Fire – 2, Health – 2, Water Pollution – 1, Reactivity - 0.

Disclaimer: ERGON ARMOR PROVIDES THIS INFORMATION FOR THE USER'S CONSIDERATION. EA BELIEVES THIS INFORMATION IS ACCURATE, BUT NOT ALL INCLUSIVE IN ALL CIRCUMSTANCES. USER SHOULD ENSURE THAT USER HAS CURENT DATA RELEVANT FOR ITS PURPOSES. NO WARRANTY, EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY, FITNESS OR OTHERWISE IS GIVEN.