

ERGON ARMOR

BH5501

MSDS No. EA063

Date of Preparation: **November 19, 2009**

Revision No. 0

Section 1 – Chemical Product and Company Information	
Product/Chemical Name:	BH5501
Chemical Formula:	Mixture
CAS Number:	Mixture
Other Designations:	
General Use:	Surface coating
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 (Oxidized)	64742-93-4	20-30
Asphalt Cement	8052-42-4	20-30
Petroleum Distillate (Stoddard Solvent)	8052-41-3	25-45
1-Propanamine, 3-(isodecyloxy)-, acetate	28701-67-9	1-3
Hydrous Alumino Silicate (clay)	12174-11-7	3-10
Crystalline Silica as quartz	14808-60-7	<1
Cellulose	9004-34-6	2.5-7.0
Calcium Carbonate	471-34-1	10-17

INGREDIENT	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDHL
	TWA	STEL	TWA	STEL	TWA	STEL	
Asphalt Cement	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.
Asphalt, oxidized	Total dust: 15 mg/m ³	None estab.	0.5 mg/m ³ (inhalable fraction, as benzene-soluble aerosol)	None estab.	None estab.	5 mg/m ³ (ceiling)	None estab.
Petroleum Distillate (Stoddard Solvent)	2,900 mg/m ³	None estab.	525 mg/m ³	None estab.	350 mg/m ³	1,800 (mg/m ³)	20,000 mg/m ³
1-Propanamine, 3-(isodecyloxy)-, acetate	None estab.	None estab.	None estab.	None estab.	None estab.	None estab.	None estab.
Hydrous Alumino Silicate	5 mg/m ³ (respirable particulate)	None estab.	3 mg/m ³ (respirable dust)	None estab.	None estab.	None estab.	None estab.
Crystalline Silica as quartz	10 mg/m ³ / (%SiO ₂ +2) (respirable, Table Z-3)	None estab.	0.025 mg/m ³ (respirable)	None estab.	0.05 mg/m ³ (respirable)	None estab.	50 mg/m ³
Cellulose	15 mg/m ³ (total particulate)	None estab.	10 mg/m ³ (total dust)	None estab.	10 mg/m ³ (total particulate)	None estab.	None estab.
Calcium carbonate	5 mg/m ³ (respirable particulate)	None estab.	Withdrawn	None estab.	5 mg/m ³ (respirable particulate)	None estab.	None estab.

Section 3 – Hazards Information

EMERGENCY OVERVIEW

HMIS

H-2
F-2
R-0
PPE*
* Sec.8

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POTENTIAL HEALTH EFFECTS

Primary Entry Routes: Inhalation, ingestion, and absorption.

Target Organs: Skin, Eye, Lung, Liver, Kidney, Nervous system.

Acute Effects

Inhalation: May cause nausea, headaches, and dizziness. May cause drowsiness, weakness, and fatigue. May cause slight irritation to the respiratory system.

Eye: Direct contact may cause moderate irritation. Direct contact may cause temporary redness and discomfort.

Skin: May cause moderate irritation. May cause itching, reddening, inflammation. May cause a rash. May cause sensitization.

Ingestion: May cause gastrointestinal irritation, nausea, and vomiting.

Carcinogenicity: Product components listed as a IARC, NTP, ACGIH, or OSHA carcinogen:

Crystalline Silica (Quartz)/ Silica Sand CAS 14808-60-7

Medical Conditions Aggravated by Long-Term Exposure: Pre-existing eye, skin, liver, kidney, and respiratory disorders may be aggravated by exposure.

Chronic Effects: Prolonged or repeated skin contact with asphalt may result in skin sensitivity, such as irritation, rashes, and dermatitis. Prolonged or repeated exposure to polycyclic aromatic hydrocarbons and other volatiles which are contained in trace amounts in asphalt have been shown to cause cancer or respiratory damage in animals. Inhalation of crystalline silica (quartz) can cause cancer based on animal data, and IARC concludes sufficient evidence in humans (Group 1). Prolonged and repeated overexposure to free crystalline silica dust above the TLV level may cause scarring of the lungs with cough and shortness of breath. A delayed lung injury, silicosis, may result from breathing free silica. Fillers are encapsulated and not expected to be released from product under normal conditions of use. Prolonged or repeated exposure to mineral spirits (petroleum naphtha or Stoddard solvent) may cause defatting, drying, and irritation of the skin, dermatitis, central nervous system (CNS) effects, and adverse liver, kidney, and lung effects.

Section 4 – First Aid Measures

Inhalation: Leave area to breathe fresh air. Avoid further overexposure. If symptoms persist, get medical attention.

Eye Contact: Flush with water for at least 15 minutes while holding eye lids apart. Get medical attention immediately.

Skin Contact: Clean area of contact thoroughly using soap and water. If irritation, rash or other disorders develop, get medical attention immediately.

Ingestion: Do not induce vomiting unless advised by a physician. Call nearest Poison Control Center or Physician immediately.

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: >100 °F (>38 °C)

Flash Point Method: COC

Ignition Temperature: Not available

LEL: Not available

UEL: Not available

Flammability Classification: Class II

Extinguishing Media: Dry chemical, foam, and carbon dioxide.

NFPA



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Unusual Fire or Explosion Hazards: This product may ignite when sufficient heat is applied. Check for combustible vapors prior to and during welding or torch cutting on vessels or tanks. It has been found that in hot storage tanks low flash substances may accumulate in the vapor space. The flammability characteristics will not be detected by any flash point method. Keep ignition sources away from tank vents and prevent accumulation of pyrophoric iron sulfide.

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: Use appropriate protective equipment. Avoid contact with material. Remove sources of ignition immediately. Stop flow of material if safe to do so. Contain spill and keep out of sewers and waterways. Ventilate area.

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: 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). Subject to hazardous waste treatment, storage, and disposal requirements under RCRA for characteristic of ignitability (D001). For disposal follow all federal, state, and local regulations regarding solid waste.

Section 7 – Handling and Storage

Handling Precautions: Prevent inhalation of vapor, ingestion, and contact with skin eyes and clothing. Keep container closed when not in use. Precautions also apply to emptied containers. Do not smoke, weld, generate sparks, or use flame near container. Do not use in confined or poorly ventilated areas. Personal protective equipment must be worn during maintenance or repair of contaminated mixer, reactor, or other equipment.

Storage Requirements: Store under dry warehouse conditions away from heat and all ignition sources.

Regulatory Requirements: None known.

Section 8 – Exposure Controls / Personal Protection

Engineering Controls: Use only in well ventilated areas. Provide maximum ventilation in enclosed areas. Use local exhaust when the general ventilation is inadequate.

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.

Respiratory Protection: Wear appropriate, properly fitted NIOSH/MSHA-approved organic vapor or supplied air respirator when airborne contaminant level(s) are expected to exceed exposure limits indicated on the MSDS. Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134). 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 a self-contained breathing apparatus (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;

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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: Use suitable impervious nitrile or neoprene gloves and protective apparel to reduce exposure. Wear appropriate eye protection (chemical safety goggles and/or face shield) to prevent eye contact per OSHA eye- and face-protection regulations (29 CFR 1910.133). Do not wear contact lenses. Do not touch eyes with contaminated body parts or materials. Prevent contact with shoes and clothing.

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: Brown-black liquid with a mild solvent odor

Other Solubilities: No data.

Odor Threshold:

Boiling Point: 300 °F

Vapor Pressure: Not available

Freezing/Melting Point: No data.

Vapor Density (Air = 1): >1

Viscosity: No data.

Refractive Index: No data.

Formula Weight: Est. 250 lb/lb-mole

Surface Tension: No data.

Density: Est. 8.65 lb/gal

% Volatile: 25-45

Specific Gravity (H₂O = 1, at 4 °C): Est. 1.05

Evaporation Rate: No data.

pH: Not available

Section 10 – Stability and Reactivity

Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Polymerization: Hazardous polymerization will not occur under normal conditions.

Chemical Incompatibilities: Strong oxidizing agents.

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.

Skin Effects: May result in skin sensitivity, such as irritation, rashes, and dermatitis.

Acute Inhalation Effects: Human, inhalation, TC_{LO}: No data.

Acute Oral Effects: No data.

Carcinogenicity: No data.

Mutagenicity: No data.

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.

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		
<p>Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.</p> <p>Disposal Regulatory Requirements: Subject to hazardous waste treatment, storage, and disposal requirements under RCRA. Follow Federal, state, and local regulations for disposal of solid waste.</p> <p>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.</p>		
Section 14 – Transport Information		
<p>If shipped by ground in quantities LESS than 119 gallons (450 L): Not regulated as a hazardous material. If shipped by vessel in quantities LESS than 7.9 gallons (30 L), IMDG 2.3.2.5 exception applies: Not regulated as a hazardous material. State on shipping documents: "Transport in accordance with 2.3.2.5 of the IMDG Code"</p> <p style="text-align: center;">For all other shipping information, see below: (applies to air, ground bulk, and passenger rail)</p>		
<p>Shipping Name: Tars, liquid <i>including road asphalt and oils, bitumen, and cutbacks</i></p> <p>Shipping Symbols: NA</p> <p>Hazard Class: 3</p> <p>ID No.: UN1999</p> <p>Packing Group: III</p> <p>Label: Flammable Liquid</p> <p>Special Provisions (172.102): B1, B13, IB3, T1, TP3</p>	<p>Packaging Authorizations:</p> <p>a) Exceptions: 173.150</p> <p>b) Non-bulk Packaging: 173.203</p> <p>c) Bulk Packaging: 173.242</p> <p>Shipping Description: "UN1999, Tars, liquid, 3, III"</p>	<p>Quantity Limitations:</p> <p>a) Passenger, Aircraft, or Railcar: 60 L</p> <p>b) Cargo Aircraft Only: 220 L</p> <p>Vessel Stowage Requirements:</p> <p>a) Vessel Stowage: A</p> <p>b) Other: NA</p>
Section 15 – Regulatory Information		
<p>EPA Regulations:</p> <p>RCRA RCRA Hazardous Waste Number: Not listed. RCRA Hazardous Waste Classification (40 CFR 261): D001 (Characteristic of ignitability): Reportable Quantity = 100 lbs. This classification applies only to the material as it was originally produced.</p> <p>CERCLA CERCLA: Not listed.</p>		
Section 15 – Regulatory Information - Continued		
<p>CERCLA Reportable Quantity (RO): 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 the Clean Water Act.</p> <p>SARA SARA 311/312 Codes: Acute Health Hazard Chronic Health Hazard Fire Hazard SARA Toxic Chemical: Not listed. SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed.</p> <p>OSHA Regulations Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): See Table in Section 2. OSHA Specifically Regulated Substance: No</p> <p>State Regulations: Listed in state hazardous substance list for CA and MN for Asphalt (petroleum fumes and Stoddard solvent (mineral spirits); FL, MA, NJ, for Asphalt fumes and Stoddard solvent; and PA for Asphalt and Stoddard solvent (mineral spirits). Contains chemicals known to the State of California to cause cancer, birth defects and/or other reproductive harm: Asphalt (8052-42-4), Crystalline Silica as Quartz</p>		

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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.

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