

ERGON ARMOR

BH5350

MSDS No. EA041

Date of Preparation: **August 27, 2009**

Revision No.0

Section 1 – Chemical Product and Company Information

Product/Chemical Name:	BH5350
Chemical Formula:	Mixture
CAS Number:	Mixture
Other Designations:	Cold-applied asphalt adhesive
General Use:	Adhesive
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	8052-42-4 (fumes)	30-45
Aromatic Hydrocarbon	64742-95-6	15-30
Hydrous Alumino Silicate	12174-11-7	3-6
Crystalline Silica as quartz	14808-60-7	<1
Calcium Carbonate	471-34-1/1317-65-3	11-31
Cellulose	9004-34-6	<1-5

INGREDIENT	OSHA PEL		ACGIH TLV		NIOSH REL		NIOSH IDLH
	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.
Aromatic Hydrocarbon	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
Calcium carbonate	5 mg/m ³ (respirable particulate)	None estab.	Withdrawn	None estab.	5 mg/m ³ (respirable particulate)	None estab.	None estab.
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.

Section 3 – Hazards Information

EMERGENCY OVERVIEW

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.

HMIS H-2 F-2 R-1 PPE* * Sec.8

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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: If water fog is ineffective, use carbon dioxide, dry chemical, or foam.

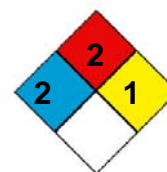
Unusual Fire or Explosion Hazards: Product may ignite if heated in excess of its flash point. Vapors may travel to sources of ignition and flashback. Vapor concentrations in enclosed areas may ignite explosively. Empty containers may contain ignitable vapors.

Hazardous Combustion Products: Smoke, fumes. Carbon monoxide and carbon dioxide can form. Oxides of sulfur can form.

Fire-Fighting Instructions: Use accepted fire fighting techniques.

Fire-Fighting Equipment: Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA) in enclosed places.

NFPA



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.

Section 8 continued on next page....

Section 8 – Exposure Controls / Personal Protection - Continued

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; 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: Liquid	Water Solubility: Negligible.
Appearance and Odor: Brown-black liquid with a mild solvent odor	Other Solubilities: No data.
Odor Threshold:	Boiling Point: 212 °F
Vapor Pressure: Not available	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: Est. 8.42 lb/gal	Surface Tension: No data.
Specific Gravity (H₂O = 1, at 4 °C): Est. 1.01	% Volatile: 20% - 30%
pH: Not available	Evaporation Rate: No data.

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

Disposal: Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.
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.
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

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"

For all other shipping information, see below: (applies to air, ground bulk, and passenger rail)

Shipping Name: Tars, liquid including road asphalt and oils, bitumen, and cutbacks	Packaging Authorizations: a) Exceptions: 173.150 b) Non-bulk Packaging: 173.203 c) Bulk Packaging: 173.242	Quantity Limitations: a) Passenger, Aircraft, or Railcar: 60 L b) Cargo Aircraft Only: 220 L
Shipping Symbols: NA		Vessel Stowage Requirements: a) Vessel Stowage: A b) Other: NA
Hazard Class: 3		
ID No.: UN1999		
Packing Group: III		
Label: Flammable Liquid		
Special Provisions (172.102): B1, B13, IB3, T1, TP3		
Shipping Description: "UN1999, Tars, liquids, 3, III"		

Section 15 – Regulatory Information

EPA Regulations:
RCRA
 RCRA Hazardous Waste Numbers:

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Isopropylbenzene	98-82-8 (U055)
Xylene	1330-20-7 (U239)
Naphthalene	91-20-3 (U165)

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.

CERCLA

CERCLA: Isopropylbenzene	98-82-8 (RQ 5,000 lbs)
Xylene	1330-20-7 (RQ 100 lbs)
Ethylbenzene	100-41-4 (RQ 1,000 lbs)
Naphthalene	91-20-3 (RQ 100 lbs)
Styrene	100-42-5

SARA

SARA 313 Component:	1,2,4-Trimethylbenzene	95-63-6
	Isopropylbenzene	98-82-8
	Xylene	1330-20-7
	Ethylbenzene	100-41-4
	Naphthalene	91-20-3
	Dicyclopentadiene	77-73-6
	Styrene	100-42-5

SARA 311/312 Hazards: Acute Health Hazard
Chronic Health Hazard
Fire Hazard

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

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 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)

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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