

MATERIAL SAFETY DATA SHEET

HFE-90, HFE-150, HFE-300, HFMS-2, HFMS-2S, RS-2

1. Product And Company Identification

Supplier

Bituminous Materials and Supply, L.P.
5400 West 86th Street
Indianapolis, IN 46268

Company Contact: Douglas A. Lozier
Telephone Number: 317-872-6010
FAX Number: 317-875-4673
E-Mail: doug.lozier@asphalt-materials.com
Web Site: www.asphalt-materials.com

Manufacturer

Bituminous Materials and Supply, L.P.
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Supplier Emergency Contacts & Phone Number

CHEMTREC: 800-424-9300
Safety Office: (317) 875-4676

Manufacturer Emergency Contacts & Phone Number

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Issue Date: 01/24/2012

Product Name: HFE-90, HFE-150, HFE-300, HFMS-2, HFMS-2S, RS-2

CAS Number: Mixture

Chemical Family: Emulsified Complex Petroleum Hydrocarbon and Water

MSDS Number: 644

Synonyms

ANIONIC ASPHALT EMULSION
EMULSIFIED ASPHALT

2. Composition/Information On Ingredients

Ingredient Name	CAS Number	Percent Of Total Weight
ADDITIVES A, Proprietary, Non-hazardous	TSCA listed	0 - 1
ANTISTRIP, Proprietary	Mixture	0 - 2
No. 2 FUEL OIL	68334-30-5	0 - 25
PETROLEUM ASPHALT	8052-42-4	55 - 75
TALL OIL SOAP, Proprietary	TSCA listed	1 - 6
WATER	7732-18-5	25 - 45

Asphalt: Asphalt is a complex mixture of high molecular weight hydrocarbons produced from crude petroleum. Composition varies depending on the source of crude and the specifications of the final product.

ACGIH: The American Conference of Governmental Industrial Hygienists recommends an exposure limit of 0.5 mg/m³ as benzene-extractable inhalable particulate (or equivalent method) to avoid irritation of the conjunctive mucous membranes. Historical information on exposure of asphalt workers used methods different than recommended by ACGIH, so comparisons to the recommended exposure limits are not known.

3. Hazards Identification

Eye Hazards

Contact with hot emulsified asphalt can cause thermal burns to the eyes. Prolonged exposure to vapors, fumes, or mists may cause eye irritation, redness, and tearing.

Skin Hazards

Skin contact with hot emulsified asphalt can cause minor thermal burns. Prolonged exposure to vapors, fumes, or

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3. Hazards Identification - Continued

Skin Hazards - Continued

mists may cause irritation and redness.

Ingestion Hazards

Ingestion is not likely. Ingestion may cause thermal burns. If ingestion of emulsified material occurs, keep victim's head below the hips to prevent asphalt from reaching the lungs. Take the victim to obtain medical assistance immediately.

Inhalation Hazards

Breathing vapors, fumes, or mists may cause irritation to nasal and respiratory tract and central nervous system effects. Symptoms may include labored breathing, sore throat, coughing, wheezing, dizziness, headache, and nausea.

4. First Aid Measures

Eye

Gently flush immediately with cold water for 15 minutes. Do not attempt to remove solidified material from the eye, as this may further injury. Take the victim to obtain medical assistance.

Skin

Hot Emulsified Material - Cool the affected body parts immediately by submerging in cold water until the material has cooled. Do not attempt to remove solidified material from the burn area as this may further tissue damage. Take the victim to obtain medical assistance immediately.

Cold Emulsified Material - Remove emulsified asphalt by soaking dressing in mineral oil and place over affected area for 2-3 hours. If irritation occurs, call a physician.

Never try to remove the material with solvents.

Ingestion

Ingestion is not likely. If large amounts are swallowed, do not induce vomiting and immediately call a physician.

Inhalation

If irritation occurs from inhalation overexposure, immediately remove victim from source to fresh air and seek medical attention.

5. Fire Fighting Measures

Flash Point: N.A. °F

Autoignition Point: >400 °F

Lower Explosive Limit: N.A.

Upper Explosive Limit: N.A.

Extinguishing Media

Foam, Carbon Dioxide, Dry Chemical, and Water Spray may all be suitable in extinguishing fires involving this product. Avoid using water streams to prevent frothing. Use water spray to cool exposed surfaces.

6. Accidental Release Measures

Stop source of leak. Eliminate sources of ignition. Contain by diking or impounding. Absorbents can be used to contain spill. After containment, emulsified asphalt can be collected for disposal. Advise authorities if product has entered a sewer or water source. Assure conformity with local, state, and federal governmental regulations for disposal.

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7. Handling And Storage

Handling And Storage Precautions

When opening covers and outlet cap on storage tanks, use faceshield and gloves to avoid possible injury from pressurized asphalt. Hydrogen sulfide can be generated and accumulated in storage tanks and bulk transport compartments. Stay upwind and vent storage hatches before unloading. Keep heating units and flues in storage tanks covered with at least 12 inches of asphalt. Do not overheat.

Empty Container Warning: Empty containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Keep away from incompatible materials.

Work/Hygienic Practices

Skin contact and the breathing of mists, fumes, or vapors should be reduced to a minimum to avoid any ill effects. Thoroughly wash exposed skin areas after work to avoid dermatitis. Consider the use of lanolin skin treatments before handling or working around asphalt mixtures.

8. Exposure Controls/Personal Protection

Engineering Controls

Local or general exhaust required if in an enclosed area to remain below the TLV. If work place exposure limits are exceeded, a NIOSH/MSHA approved air supplied respirator is advised in the absence of proper environmental engineering controls.

Eye/Face Protection

Safety goggles or chemical splash goggles if splashing is anticipated.

Skin Protection

Oil impervious gloves, such as Neoprene, if frequent or prolonged contact is expected.

Respiratory Protection

Respiratory protection is not normally required under normal conditions and adequate ventilation. If high vapors are expected, use respirator approved for organic vapors. Observe respirator protection factor criteria cited in ANSI Z88.2 (1980) and other OSHA requirements found in 29 CFR 1910.134. Use air-supplied respirators or self-contained breathing apparatus for firefighting and in confined spaces when asphalt vapor or Hydrogen Sulfide gas exceeds permissible limits.

Other/General Protection

Wear body-covering clothes to avoid prolonged or repeated exposure. Launder before reuse.

Ingredient(s) - Exposure Limits

ADDITIVES A, Proprietary, Non-hazardous

OSHA PEL: Not established for this material.

ANTISTRIP, Proprietary

OSHA PEL: Not established for this material.

No. 2 FUEL OIL

OSHA PEL: Not established for this material.

PETROLEUM ASPHALT

OSHA PEL: Not established for this material.

ACGIH TLV: 0.5 mg/m³ as benzene-extractable inhalable particulate (or equivalent method).

NIOSH REL: 5.0 mg/m³ as a 15-minute ceiling limit measured as total particulates

TALL OIL SOAP, Proprietary

OSHA PEL: Not established for this material.

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9. Physical And Chemical Properties

Appearance

Brown Liquid

Odor

Characteristic Asphalt Odor

Chemical Type: Mixture

Physical State: Liquid

Boiling Point: 212 °F

Specific Gravity: 0.92-1.05

Molecular Weight: 280

Vapor Pressure: <1mm-10mm Hg@77 F

Vapor Density: >1.0

pH Factor: 7-11

Solubility: Completely

10. Stability And Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur

Incompatible Materials

Strong Oxidizers

Hazardous Decomposition Products

Fumes, Smoke, Carbon Monoxide, Hydrogen Sulfide, Sulfur Dioxide, Aldehydes, and Hydrocarbons

11. Toxicological Information

11.a. International Agency for Research on Cancer (IARC) Ruling

Occupational exposures to straight-run bitumens and their emissions during road paving:

On the basis of an earlier meta-analysis, the IARC multi-center study, and several more recent independent studies, the Working Group concluded that there was inadequate evidence in humans for the carcinogenicity of occupational exposures during road paving with straight-run bitumens. Also, there was inadequate evidence in experimental animals for the carcinogenicity of extracts and of fume condensates of this type of bitumens. However, studies of workers exposed to bitumen emissions during paving with straight-run bitumens showed mutagenic and genotoxic/cytogenetic effects in these workers. Similar effects were also observed in experimental systems under controlled conditions. This strong mechanistic evidence led to the classification of occupational exposures to straight-run bitumens and their emissions during road paving as "possibly carcinogenic to humans" (Group 2B). However, the IARC Working Group did not make a classification specific to asphalt emulsions. Asphalt emulsions are handled and applied at lower temperatures; therefore if properly handled are not expected to cause cancer in humans.

11.b. Health Hazard Characterization:

Uncertainties exist in the hazard characterization of asphalt fumes by many factors including its chemical complexity, limitation of the information, the inclusion of coal tar in asphalts in past decades, other confounders and mixed results of human studies. Concise International Chemical Assessment Documents relating to asphalt and fumes can be obtained on the internet at <http://incchem.org/documents/cicads/cicads/cicad59.htm>. Despite conflicting reports, the following bullet points should be noted:

- Currently classified as A4 (not classifiable as a human carcinogen). Asphalt Coal Tar Free
- Breathing of mists, fumes, or vapors should be reduced to a minimum to avoid any ill effects.
- Asphalt and asphalt fumes contain trace levels of polynuclear aromatic hydrocarbons that are known carcinogens.
- Chronic health effects would not be expected as long as good hygiene and proper safety precautions are

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11. Toxicological Information - Continued

practiced and exposures are less than the TLVs/RELs.

- After using material or being around fumes, wash exposed areas thoroughly with soap and water. Showering immediately after work is a good personal hygiene practice.

KEROSENE and NO. 2 FUEL OIL: Lifetime skin painting studies in animals with similar distillate fuels have produced weak carcinogenic activity following prolonged and repeated exposure. Repeated dermal application has produced severe irritation and systematic toxicity in subacute toxicity studies. Some components of distillate fuels, i.e., paraffins and olefins, have been shown to produce a species specific, sex hormonal dependent kidney lesion in male rats from repeated oral or inhalation exposure. Jet Fuel and No. 1 fuel oil were found to be positive in a few mutagenicity tests while negative in the majority of others. The exact relationship between these results and human health is not known. Chronic human health effects would not be expected as long as good personal hygiene and proper safety precautions are practiced.

12. Ecological Information

Liquid asphalt emulsion product may cause fouling of water and/or may be toxic to aquatic animals. Once solidified, this product will no longer exhibit these characteristics.

13. Disposal Considerations

Dispose in accordance with local, state, and federal regulations. After cooling, waste or contaminated asphalt mixtures may be scooped and stockpiled for later recycling into asphalt pavement mixtures, pugmilled into cold mix, or disposed in an approved special waste, industrial, or construction debris landfill.

RCRA Information

This material, if discarded as produced, is not a RCRA "listed" hazardous waste. Use which results in chemical or physical change or contamination may subject it to regulation as a hazardous waste. It is the responsibility of the generator to fully characterize for toxicity and other RCRA parameters prior to disposal (40 CFR 261). Along with properly characterizing all waste materials, consult state and local regulations regarding proper disposal of this material.

14. Transport Information

This product as produced and shipped is not considered a hazardous material by the U.S. Department of Transportation.

15. Regulatory Information

U.S. Regulatory Information

Toxic Substances Control Act: This product is listed on the US TSCA Chemical Inventory Section 8(b).

Clean Water Act: Petroleum hydrocarbons are considered hazardous if released into navigable waters.

OSHA Hazard Communication: See individual state requirements for Right-To-Know lists.

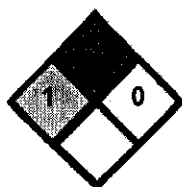
SARA Hazard Classes

Acute Health Hazard

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NFPA



HMIS

HEALTH	1
	0
REACTIVITY	0
PERSONAL PROTECTION	B,X

16. Other Information

Precautionary Label

WARNING - HOT EMULSIFIED ASPHALT

May produce minor burns on contact

Revision/Preparer Information

MSDS Preparer: Douglas A. Lozier

MSDS Preparer Phone Number: (317) 872-6010

Reference Documentation

Information supplied by Heritage Research Group, Indianapolis, Indiana

Disclaimer

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Bituminous Materials and Supply, L.P.

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