



# MEIGS

Paving Asphalts & Emulsions

Henry G. Meigs, L.L.C.  
1220 Superior Street  
Portage, WI 53901

Phone: 608-742-5354 Website: www.hgmeigs.com

## MATERIAL SAFETY DATA SHEET

### 24 HOUR EMERGENCY ASSISTANCE

**CHEMTREC:** 800-424-9300 Transport

800-441-3637 Medical

### GENERAL MSDS ASSISTANCE

**MEIGS:** 800-362-1440 General

608-742-1805 FAX

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### Section 1: PRODUCT IDENTIFICATION

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**Product Name:** Asphalt Emulsion, Anionic

**Synonyms:** HFMS-2, HFRS-2H, HFRS-2M, HFRS-2P, HFE-90, HFE-150

**Chemical Name:** Asphalt Emulsion

**Chemical Family:** Petroleum Hydrocarbon, Tall Oil (organic acids), and Modified Tall Oil Fatty Acids

**Creation Date:** January 3, 2000

**Revision Date:** May 9, 2007

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### Section 2: COMPOSITION/COMPONENTS

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| <u>Components</u>                        | <u>CAS#</u> | <u>%</u>  |
|--|-------------|-----------|
| Petroleum Asphalt                        | 8052-42-4   | 60-73     |
| Hydrogen Sulfide                         | 7783-06-4   | <1        |
| Polynuclear Aromatic Hydrocarbons (PAHs) | N/A         | trace     |
| Water                                    | N/A         | 30-40     |
| Tall Oil                                 | N/A         | 0-2       |
| Modified Tall Oil Fatty Acids            | N/A         | 0-1       |
| Petroleum Distillate                     | N/A         | 0-15      |
| Sodium Hydroxide (Caustic Soda)          | 1310-73-2   | 0.06-0.10 |
| Polymer                                  | N/A         | 0-3       |

Composition varies depending on source of crude and specification of final product.  
For Exposure Limits, see Section 8.

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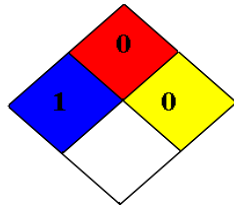
### Section 3: HAZARD RATING/SUMMARY

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NFPA Ratings (Scale 0-4):      Health = 1      Fire = 0      Reactivity = 0

Hazard Rating:

- 0 – Least
- 1 – Slight
- 2 – Moderate
- 3 – High
- 4 – Extreme



#### Emergency Overview:

Hydrogen Sulfide (H<sub>2</sub>S) gas may accumulate in the air space above asphalt during storage or transport. Hydrogen Sulfide is harmful or fatal if inhaled.

Heated asphalt can cause thermal burns. Eye protection, as well as protective clothing, should be worn when working with hot asphalt.

Prolonged or repeated contact with asphalt may cause skin irritation or dermatitis. Pre-existing skin, eye, and respiratory disorders may be aggravated by exposure to components of this product. May cause photo-irritation (light sensitivity) in some individuals.

There is inadequate evidence that paving asphalts alone are carcinogenic to humans.

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### Section 4: FIRST AID MEASURES

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**Inhalation:** Fumes may cause headache, blurred vision, nasal and respiratory irritation, nausea, and drowsiness. Remove victim to uncontaminated area. Give artificial respiration if not breathing. Get medical attention.

#### Skin Contact:

**Hot Asphalt Cement:** Flush with cool water for at least 15 minutes or completely submerge affected area in ice water. Do not apply ice directly to affected area. Do not attempt to remove the asphalt cement. Removing the asphalt may further damage the tissue. Natural separation will occur in 48 – 72 hours. Get immediate medical attention.

#### Treatment for shock:

1. Keep victim lying down and quiet.
2. Keep victim covered with a blanket or something similar to keep body temperature at normal, 98°F.
3. Keep victim's head lower than feet to promote blood supply to head and chest
4. **Cold Asphalt Cement:** Clean exposed skin with waterless hand cleaner and then wash with soap and water.

**Ingestion:** No significant health hazards identified. Dilute by drinking 2-3 glasses of water. If large amount is swallowed, get medical attention.

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## Section 5: FIRE FIGHTING MEASURES

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**Fire and Explosion Hazards:** Asphalt Emulsion is not a combustible liquid per the Occupational Safety and Health Administration (OSHA) hazard communication standard. Hot Asphalt may ignite flammable materials on contact.

**Extinguishing Media:** carbon dioxide, regular dry chemical, regular foam, water;

For large fires, use regular foam or flood area with fine water spray.

**CAUTION:** Contact of hot asphalt with water leads to violent expansion as the water turns to steam. Evacuate area and fight fire from a safe distance.

**Fire Fighting:** Avoid inhalation of fumes. Stay upwind and keep out of low areas. Firefighters should wear full-face mask and full protective equipment including a positive pressure self-contained breathing apparatus.

**Hazardous Combustion Products:**

Combustion may produce CO<sub>x</sub>, NO<sub>x</sub>, SO<sub>x</sub>, irritating vapors and hydrogen sulfide.

**Flash Point:** N/A

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## Section 6: ACCIDENTAL RELEASE MEASURES

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Keep ignition sources out of the area. Take immediate steps to stop and contain the release. Containment may be safely accomplished with a soil dike. Keep out of waterways and sewers. For small spills, absorb the asphalt with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Notify local authorities and the National Response Center (800)424-8802 if required.

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## Section 7: HANDLING AND STORAGE

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**Storage:** Store in a well-ventilated area, in an appropriately labeled container. Outside storage is recommended. Avoid storing with strong oxidizers.

Heating coils in storage or transportation vessels must be covered with at least 8" of asphalt.

**CAUTION:** Empty containers may contain toxic, flammable/combustible or explosive residue or vapors. Do not reuse without adequate precautions.

**CAUTION:** Vapors containing hydrogen sulfide may accumulate in the air space above asphalt in storage or transportation vessels. Use appropriate respiratory protection to prevent exposure. Do not enter enclosed or confined space without a self-contained breathing apparatus and other protective equipment.

**Handling:** Keep away from all ignition sources. Do not smoke in areas where asphalt is being used or stored. Do not eat or drink in areas where asphalt is being used or stored. Use good personal hygiene practices when working with asphalt. When opening covers and outlet caps on storage tanks, use faceshield and gloves to avoid possible injury from pressurized asphalt.

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## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Exposure Limits:

#### Asphalt (Petroleum) fumes:

0.5 mg/m<sup>3</sup> ACGIH 8-hour TWA (inhalable fraction)

5mg/m<sup>3</sup> 15-minute REL

#### Hydrogen Sulfide:

20ppm OSHA ceiling

10ppm ACGIH 8-hour TWA

15ppm ACGIH 15-minute STEL

#### Tall Oil:

N/A

#### Modified Tall Oil Fatty Acids:

N/A

#### Petroleum Distillates:

400 ppm PEL (Permissible Exposure Limit)

**Respiratory Protection:** Protection not required under normal conditions and adequate ventilation. Do not breathe mist or vapor. A positive pressure self contained breathing apparatus should be used whenever entering a confined space, for firefighting, or when the worker's face is to be within three feet of an open hatch.

**Skin Protection:** Insulated gloves should be worn when handling hot material. Natural fiber long-sleeved shirts and pants without cuffs should be worn. Synthetic fibers can melt and fuse to the skin when in contact with hot asphalt. Rubberized suits or coats may be needed for some maintenance operations with hot asphalt.

**Eye Protection:** Use goggles and/or face shield when deemed appropriate.

Intermittent or occasional skin contact with cool asphalt emulsion is not expected to have serious health effects as long as good personal hygiene measures, such as those outlined in this material safety data sheet, are followed.

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## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

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Asphalt emulsion is a chocolate-brown liquid. Asphalt emulsion is produced by milling petroleum asphalt into microscopic particles and then dispersing it in water with a chemical emulsifier.

The following data are approximate or typical values and should not be used for precise design purposes.

|                   |             |                          |            |
|-------------------|-------------|--------------------------|------------|
| Boiling point:    | > 212°F     | Evaporation rate:        | n/a        |
| Specific gravity: | 1.02        | Vapor pressure (@ 25°C): | 23.7 mm Hg |
| Density:          | 8.4 lbs/gal | pH:                      | >7         |

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## Section 10: STABILITY AND REACTIVITY

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Asphalt emulsion is stable at normal temperatures and pressures.  
Avoid all sources of ignition around hot asphalt and asphalt vapors.  
Incompatible with oxidizing materials such as chlorates, nitrates, and peroxides.  
Asphalt emulsion will not polymerize.

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## Section 11: TOXICOLOGICAL INFORMATION

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Hydrogen sulfide gas, which may accumulate in the airspace above stored asphalt, is irritating and can be fatal. The “rotten egg” odor of hydrogen sulfide should not be used as a reliable indicator as to the presence of the gas. Odor fatigue readily occurs as exposure to the gas increases. Odor sensation is immediately lost at concentrations greater than 150ppm. At concentrations around 1000ppm, hydrogen sulfide causes rapid death due to metabolic asphyxiation.

Polynuclear Aromatic Hydrocarbons (PAHs) are naturally occurring constituents of crude oils. Since asphalt cement is refined from crude oil, PAHs may be present in trace amounts in the asphalt cement. Repeated or prolonged exposure to some PAHs has been associated with effects to the liver, kidneys, immune system and skin. Some PAHs have been shown to be carcinogenic after prolonged or repeated skin contact in laboratory animals. However, the measured concentrations, and the frequency of PAHs occurring in paving asphalt, have been low.

The National Institute for Occupational Safety and Health (NIOSH) concludes that there is insufficient evidence for an association between lung cancer and exposure to paving asphalt fumes. Petroleum distillates have potential carcinogenic effects. However, serious health effects are not expected as long as good personal hygiene is practiced and safety measures outlined in this MSDS are followed.

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## Section 12: ECOLOGICAL

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Ecological testing information is not available.

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## Section 13: DISPOSAL CONSIDERATIONS

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It is the responsibility of the user to follow all local, state, and federal regulations applicable to disposal.

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## Section 14: TRANSPORTATION INFORMATION

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### US DOT 49 CFR 172.101

Shipping Name: Asphalt, Emulsion, Liquid

DOT Identification Number: N/A

DOT Classification Number: N/A

Packing Group: N/A

Placards Required: N/A

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## Section 15: REGULATORY INFORMATION

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### **SARA Title III Section 302 Extremely Hazardous Substances (40 CFR Part 355):**

This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

### **SARA Section 304 (40 CFR Part 355.40):**

This product is not regulated under Section 304 of SARA and 40 CFR Part 355.

### **U.S. Inventory (TSCA):**

This product is a mixture of chemical substances currently listed on the EPA/TSCA Inventory of Chemical Substances.

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