



SAFETY DATA SHEET

ANIONIC EMULSIONS

1. PRODUCT AND COMPANY INFORMATION

Product Name: HFMS-2, HFMS-2h, HFMS-2gh, HFMS-2s, HFMS-2ws, HFMS-2p, HFRS-2, HFMS-2crab, RS-1, RS-2, MS-2, EDP, E-1 Prime, AEP

Synonym: Anionic Emulsion

Product Use: Road Paving

Company Name: Midland Asphalt Materials Inc.
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Tonawanda, New York 14151-0388
Phone No. 716-692-0730
Fax No. 716-692-0613

FOR CHEMICAL EMERGENCY, SPILLS, LEAKS,
FIRE, EXPOSURE OR ACCIDENT CALL 3 E
800-451-8346

2. HAZARDS IDENTIFICATION

OSHA/HCS Status: This substance is classified as hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Signal Word: Warning

Classification of Substance:

Skin corrosion/irritation - Category 2
Serious eye damage/irritation - Category 1
Skin sensitization - Category 1

Hazard Pictograms:



Hazard Statements:

May Cause eye irritation H320
May Cause skin irritation H315
May cause an allergic skin reaction H315
Substance may be harmful if swallowed irritating mouth throat and stomach H302
Vapors may have a strong offensive odor which may cause headaches, H333
nausea and vomiting.

Precautionary Statements:

Prevention: Avoid breathing dust /fume /gas/mist/vapors/spray P261

Use only outdoors or in well ventilated area. P271

General advise: None

Inhalation:

If inhaled, Remove victim to fresh air and keep at rest in a position comfortable for breathing. P 304 and P311

Call poison Center or doctor/physician if you feel ill. P309and P311

Store in a well ventilated place in tight containers. P403 and P235

Disposal: None

Precautionary Statements:

Inhalation – Inhalation exposure is possible during spraying or stirring processes and may cause nausea, vomiting, diarrhea, and irritation of the nose, throat and lungs.

Skin Contact – May cause skin irritation causing redness and burning of the skin. Contact with the fumes may cause inflammation of sensitive skin membranes. Contact with heated material may cause thermal burns.

Eye Contact – May cause eye irritation causing conjunctivitis, stinging, tearing and redness. Contact with heated material may cause thermal burns.

Ingestion – Ingestion of this material is not likely during normal handling operations. Ingestion of large amounts of this material may be fatal.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance Type: Mixture

<u>Chemical Name</u>	<u>Percent</u>	<u>CAS Number</u>	<u>Exposure Limit</u>
Asphalt	12-68 %	8052-42-4	.5 mg/cu. m ACGIH TLV(fumes)
Water	32-88 %	7732-18-5	N/A
Tall Oil Sodium salt	<1.5%	68154-05-2	5 mg/cu. m oil mist
Sodium Hydroxide	.05 - .3	1310-73-2	OSHA 2 mg/cu. m
Naphtha	0-10 %	64741-42-0	5 mg/cu. m ACGIH TWA
Styrene Butadiene	0-3 %	9003-55-8	See attached sections
# 2 Fuel	0-18 %	68476-34-6	TWA 100mg/cu. m ACGIH

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

4. FIRST – AID MEASURES

Necessary First Aid Measures:

Inhalation – Immediately move individual away from the exposure area and into fresh air. Seek medical attention immediately. If victim is not breathing, begin artificial respiration. If victim's breathing is difficult, administer oxygen.

Skin Contact – This material is normally stored or handled at elevated temperatures that could cause scalding. If thermal burns occur, seek medical attention immediately. Any contact with material at ambient temperature should be rinsed from the skin with copious amounts of soap and water.

Eye Contact – Immediately move individual away from the exposure area and into fresh air. Flush eyes with copious amounts of water for at least 15 minutes while holding eyelids apart. Seek medical attention immediately. Contact lenses should not be worn while working with this chemical.

Ingestion – Do not induce vomiting – aspiration (inhaling fluid) may result. Ingestion of this material is not likely during normal handling operations. If victim becomes drowsy or unconscious, seek medical attention immediately. If spontaneous vomiting occurs, monitor for breathing difficulty.

Over-Exposure Signs and Symptoms:

Inhalation – Respiratory tract irritation, coughing

Skin Contact – Pain or irritation, redness, blistering may occur

Eye Contact – Pain, watering, redness

Ingestion – Stomach pain

Indication of Immediate Medical Attention/Special Treatment:

Note to Physician – In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

See toxicological information (Section 11)

5. FIRE FIGHTING MEASURES

NFPA Classification Health-2 Fire-0 Reactivity-0 Other -NA

Suitable Extinguishing Media: Extinguishing foam, dry chemical.

Unsuitable Extinguishing Media: Water jet.

Specific Hazards: May form carbon dioxide, carbon monoxide and sulfur dioxide.

Special Protective Equipment and Precautions for Fire-Fighters:

Avoid the use of water when fighting a fire involving this product. Wear an approved self-contained breathing apparatus with a full face piece operated with positive pressure and chemical resistant personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions/Emergency Procedures:

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Protective Equipment: Wear the appropriate personal protective equipment including gloves, boots, face shield, and Tyvek suits.

Environmental Precautions:

Prevent material and runoff from entering drains, sewers, streams, and other bodies of water. Spilt materials should be placed in compatible containers. Residual product may be absorbed with sand, clay, earth, floor absorbent or other absorbent material and placed in appropriate containers. Dispose of material in accordance with all local, state and federal regulations.

Methods and Materials for Containment and Cleanup:

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, waterways, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material (i.e. sand, earth, absorbent pads.) and place in container for disposal according to local, state, and federal regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

See Section 1 for emergency contact information and Section 13 for waste disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling:

Put on personal protective equipment when handling (See Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use adequate ventilation or wear appropriate respirator. Do not cut, grind, drill, weld, or reuse containers unless adequate precautions are taken against the hazards. Do not use excessive temperatures. Do not eat, drink or smoke in areas of use or storage. Empty containers may contain flammable, combustible or explosive vapor residue.

Conditions for Safe Storage:

Store in tightly closed containers in a dry, isolated, well ventilated area away from sources of ignition and incompatibilities. Keep container tightly sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Avoid extreme temperatures in storage. Emulsions will boil at temperatures greater than 212 degrees F and freeze at temperatures less than 32 degrees F.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Occupational Exposure Limits:

<u>Chemical Name</u>	<u>OSHA PEL</u>	<u>ACGIH TLV (US3/12)</u>	<u>NIOSH/IDLH(US1/13)</u>
Asphalt	N/A	TWA: .5mg/cu. m (Benzene soluble aerosol fume)	Ceil: 5 mg/cu. m (Fume 15 mins)
Sodium Hydroxide	TWA 2mg/cu. m	STEL: 2 mg/cu. m ceiling	
Naphtha	500 PPM	TWA 5mg/cu. m	
Styrene Butadiene	Ethanol PEL 1000 ppm	STEL value 1000 ppm	
# 2 Diesel (Fuel)		TWA 100 mg/cu. m	
Tall oil Sodium Salt		Oral LD 50 > 5000mg/kg Rat Dermal >2000 mg/kg Rabbit	

Engineering Controls: Provide sufficient general and/or local exhaust ventilation to maintain exposure below the TLV(s).

Individual Protection Measures:

Hygiene Measures – Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Use good personal hygiene when handling asphalt products. Never wipe eyes or skin with PPE that has been exposed.

Respiratory Protection – Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard(NIOSH/MSHA) if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. Use positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known or any other circumstances where air-purifying respirators may not provide adequate protection. Avoid working with this material in closed areas with improper ventilation.

Skin Protection – Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Long sleeved cotton shirt and long cotton pants are suggested to avoid potential risk for exposure. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved.

Eye/Face Protection – Safety eyewear including; glasses, goggles, or face shield complying with an approved standard should be used when handling to avoid exposure to liquid splashes, mists, gases, or dusts. Ensure that eyewash stations and safety showers are close to the workstation location. Do not wear contact lenses when handling this material.

Check before and during use that all personal protection equipment still retains their protective properties.

9. PHYSICAL AND CHEMICAL PROPERTIES

OVERVIEW:

- Brown to black fluid with Asphalt odor
- Exposure through inhalation and skin contact requires immediate medical attention.
- This material is a dispersion in which the continuous phase is water. As such, the material exhibits no flammability characteristics.
- Cured residue may produce combustible vapor in closed containers, emitting carbon dioxide, carbon monoxide, sulfur oxides and various hydrocarbons.

State	Liquid	Flammability	N/A
Appearance	Brown/black	Lower/Upper Explosive Limits	N/A
Odor	Asphalt	Vapor Pressure	60mm Hg@ 100F
Odor Threshold	N/A	Vapor Density	N/A
pH	8 -11	Relative Density	N/A
Melting Point	N/A	Solubility	Readily dispersed
Freezing Point	0C	Partition Coefficient	N/A
Boiling Point	100C	Auto-ignition Temp.	N/A
Flash Point	N/A	Decomposition Temp.	N/A
Evaporation Rate	N/A	Viscosity	N/A

10. STABILITY AND REACTIVITY

Reactivity: No specific data available.

Chemical Stability: This product is stable under normal conditions.

Possibility of Hazardous Reaction: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to Avoid: Contact with strong oxidizers, extreme temperatures in storage and handling.

Incompatible Materials: Reactive/incompatible with strong oxidizing agents.

Hazardous Decomposition Products: Carbon dioxide, carbon monoxide, sulfur dioxide, hydrogen sulfide.

11. TOXICOLOGY INFORMATION

Acute Toxicity:

<u>Chemical Name</u>	<u>Route of Exposure</u>	<u>Species Observed</u>	<u>ACGIH</u>	<u>OSHA</u>
Asphalt	Intramuscular Skin	Rodent (rat) Rodent (mouse)	LD50 - 5400 mg/kg/24W-I LD50 - 130 mg/kg/81W-I	
Tall Oil Sodium Salt	Oral Dermal	Rat Rabbit	LD 50> 5000 mg/kg LD 50> 2000 mg/kg	
Sodium Hydroxide	Oral	Rat	LD50 .24g/kg	
Naphtha	N/A	N/A	TWA 5 mg/cu.m	PEL:TWA 500 PPM
Styrene-Butadiene	Oral	Rat	LD 50 > 2000 - 10,000 mg/kg	
# 2 Diesel	Inhalation Dermal Oral	Harmful if inhaled Unlikely to be harmful Unlikely to be harmful	4.65 mg/l mist >4.1 g/kg > 5 g/kg	

Carcinogenicity:

<u>Chemical Name</u>	<u>OSHA</u>	<u>IARC</u>	<u>NTP</u>
Asphalt	-	2B	-
Tall Oil Sodium Salt	N/A	N/A	N/A
Sodium Hydroxide	Not a confirmed Carcinogen	Not a confirmed carcinogen	Not a confirmed Carcinogen
Naphtha	-	-	-
Styrene-Butadiene	-	-	-
# 2 Diesel		2	

Teratogenicity:

<u>Chemical Name</u>	<u>Route of Exposure</u>	<u>Category</u>	<u>Target Organs</u>
Asphalt	Not applicable	N/A	N/A
Tall Oil Sodium Salt	Not applicable	N/A	N/A
Sodium hydroxide	Not applicable	N/A	N/A
Naphtha	Data unavailable		
Styrene-Butadiene	Data unavailable		
# 2 Diesel			

Specific Target Organ: Not available.

Aspiration Hazard: Not available.

Likely Routes of Exposure: Oral, ocular, dermal, inhalation.

Delayed and Immediate Effects:

Short Term Exposure:

Potential Immediate Effects – Not available

Potential Delayed Effects – Not available

Long Term Exposure:

Potential Immediate Effects – Not available

Potential Delayed Effects – Not available

Potential Chronic Health Effects:

General – Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity – Possibly carcinogenic to humans, risk of cancer depends on duration and level of exposure.

Mutagenicity – No known significant effects or critical hazards.

Teratogenicity – No known significant effects or critical hazards.

Developmental Effects – No known significant effects or critical hazards.

Fertility Effects – No known significant effects or critical hazards.

Acute Toxicity Estimates: Not available

12. ECOLOGICAL INFORMATION

Toxicity:

<u>Chemical Name</u>	<u>Result</u>	<u>Species</u>	<u>Exposure</u>
Asphalt Binder	N/A (Not readily water soluble)	N/A	N/A
Tall Oil Sodium Salt	EC50: 39.7 mg/L Marine Fish Algae	Crustaceans Not Determined Not Determined	
Sodium Hydroxide	LC50: 196 mg/L Marine EC50: > 56 mg/L fresh water	Guppy Poecilia Guppy Reticulata	96 h static 48 h static
Naphtha	N/A	N/A	N/A
Styrene Butadiene	LC50>100mg/l EC50>100mg/l EC50>100mg/l	Fish Invertebrates Aquatic plants	96 h 48 h 72 h
# 2 Diesel	2-20 mg/ml		

Persistence and Degradability:

<u>Chemical Name</u>	<u>Result</u>
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Asphalt Binder	Not readily biodegradable
Tall Oil Sodium Salt	Readily biodegradable
Sodium Hydroxide	NA
Naphtha	Inherently biodegradable
Styrene Butadiene	Eliminated by water by abiotic process
# 2 diesel	Not readily biodegradable

Bio-accumulative Potential:

<u>Chemical Name</u>	<u>LogPow</u>	<u>BCF</u>	<u>Potential</u>
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Asphalt Binder	N/A	N/A	low
Tall Oil Sodium Salt	N/A	N/A	N/A
Sodium Hydroxide	N/A	N/A	N/A
Naphtha	N/A	N/A	N/A
Styrene Butadiene	N/A	N/A	Not Expected
# 2 Fuel	3.9-6	High potential to bio accumulate	Limited by water solubility

Mobility in Soil:

<u>Chemical Name</u>	<u>Result</u>
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Asphalt Binder	Immobile and inert
Tall Oil Salt	N/A
Sodium Hydroxide	N/A
Naphtha	N/A
Styrene Butadiene	None Available
# 2 diesel	Adsorption to soil

Other Adverse Effects:

<u>Chemical Name</u>	<u>Notes</u>
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Asphalt Binder	No known significant effects or critical hazards.
Tall Oil Salt	N/A
Sodium Hydroxide	Avoid water way contamination
Naphtha	N/A
Styrene Butadiene	N/A
# 2 diesel	None Anticipated

13. DISPOSAL CONSIDERATIONS

Disposal Methods:

This material is not specifically listed as a hazardous waste in federal regulations. However it could be considered hazardous as toxic, corrosive, ignitable, or reactive characteristic waste according to federal or state regulations. Dispose of in accordance with local, state, and federal regulations at an approved disposal facility.

14. TRANSPORT INFORMATION

This material is not classified under DOT regulations unless it is shipped at temperatures exceeding 100C.

	<u>DOT</u> <u>Classification</u>	<u>IATA</u> <u>Classification</u>	<u>IMDG</u> <u>Classification</u>
UN Number:	N/A	N/A	N/A
UN Proper Shipping Name:	N/A	N/A	N/A
Transportation Hazard Class:	N/A	N/A	N/A
Packing Group:	N/A	N/A	N/A
Environmental Hazard:	Yes	Yes	Yes
Additional Information:	N/A	N/A	N/A

Special Precautions for User:

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

15. REGULATORY INFORMATION

US Federal Regulations:

ACGIH	See Section 8
CAA (Section 212)	N/A
CERCLA	N/A
IARC	N/A

NTP	N/A
OSHA	See Section 8
SARA Title III	N/A
TSCA	All known components of this product are listed and comply.

State Regulations:

MA Substance List – Asphalt fumes
NJ RTK Hazardous Substance List – Asphalt fumes
PA Hazardous Substance List – Asphalt
Canadian WHMIS – N/A

16. OTHER INFORMATION

REVISION NUMBER

REVISION DATE

Version 2

6/1/2015

To the best of our knowledge, the information contained herein is accurate. However, neither Midland Asphalt Materials Inc. nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The possibility exists that the EU will not recognize this MSDS due to the fact that several components of the MSDS are reflective of ANSI Z 400.1-1998. Although ILO (International Labor Organization) has adopted ANSI Z.1-1998, ultimate disposition lies with the competent authority.