

SAFETY DATA SHEET

Issuing Date 16-Apr-2009

Revision Date 30-Sep-2013

Revision Number 1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

GHS product identifier

Product Name Asphalt Emulsion (A)

Other means of identification

UN-Number NA1993

Synonyms Cationic Winter Mix 1, Asphalt Emulsion Cat WM-2, Asphalt Emulsion CAT WM-3, Asphalt Emulsion MS-3, Asphalt Emulsion MS-4, Asphalt Emulsion MS-5

Recommended use of the chemical and restrictions on use

Recommended Use No information available

Uses advised against No information available

Supplier's details

Supplier Address

Mohawk Asphalt Emulsions
6 Freemans Bridge Road
Scotia, NY 12302
TEL: 518-372-9988

Emergency telephone number

Company Emergency Phone Number 1-800-633-8253

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200)

| | |
|------------------------------------|------------|
| Acute Inhalation Toxicity - Vapors | Category 4 |
| Flammable liquids | Category 3 |

GHS Label elements, including precautionary statements

Emergency Overview

| | |
|-------------------------------|---------|
| Signal Word | Warning |
| Hazard Statements | |
| • Harmful if inhaled | |
| • Flammable liquid and vapor. | |

**Appearance** Black, Viscous**Physical State** Liquid.**Odor** Petroleum like**Precautionary Statements****Prevention**

- Keep away from heat/sparks/open flames/hot surfaces - No smoking
- Keep container tightly closed
- Ground/bond container and receiving equipment
- Use explosion-proof electrical/ventilating/lighting/equipment
- Use only non-sparking tools
- Take precautionary measures against static discharge
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Use only outdoors or in a well-ventilated area
- Wear protective gloves/protective clothing/eye protection/face protection.

General Advice

- None

Skin

- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
- Take off contaminated clothing and wash before reuse.

Inhalation

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- Call a POISON CENTER or doctor/physician if you feel unwell.

Fire

- In case of fire: Use CO₂, dry chemical, or foam for extinction.

Storage

- Store in a well-ventilated place. Keep cool.

Disposal

- Dispose of in accordance with local/regional/national regulations.

Hazard Not Otherwise Classified (HNOC)

Contact with hot product will cause thermal burns.

Other information

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Exposure to volatiles released during hot processing such as curing or melting may cause respiratory, nose and eye irritation. May cause allergic reactions in susceptible individuals. Prolonged or repeated contact may dry skin and cause irritation.

May contain and release hydrogen sulfide which is a highly toxic and flammable gas. Hydrogen Sulfide (H₂S) has a rotten egg "sulfurous" odor. This odor should not be used as a warning property of toxic levels because H₂S can overwhelm and deaden the sense of smell. H₂S meter or colorimetric indicating tubes are typically used to determine the concentration of H₂S.

Flammable vapors can accumulate during long term heated storage of this material.

Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms

Cationic Winter Mix 1, Asphalt Emulsion Cat WM-2, Asphalt Emulsion CAT WM-3, Asphalt Emulsion MS-3, Asphalt Emulsion MS-4, Asphalt Emulsion MS-5

| Chemical Name | CAS-No | Weight % | Trade secret |
|----------------------|------------|----------|--------------|
| Asphalt | 8052-42-4 | 50-70 | * |
| Fuels, diesel, no. 2 | 68476-34-6 | 15-25 | * |
| Tall oil | 8002-26-4 | <1.5 | * |

Asphalt can contain hydrogen sulfide (CAS # 7783-06-4), a naturally occurring substance found in crude oil, a material from which asphalt is derived. Amounts contained in this product are considered residual, but can be released upon heating

**The exact percentage (concentration) of composition has been withheld as a trade secret.*

4. FIRST AID MEASURES

Description of necessary first-aid measures**General Advice**

Show this safety data sheet to the doctor in attendance.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Skin Contact

Immediate medical attention is required. In case of burns, immediately cool affected skin for as long as possible with cold water. If skin has bonded to clothing or other skin NEVER pull the area apart. Do not try to remove solidified material from the skin. Do not use solvents or thinners to dissolve the material. The use of vegetable oil or mineral oil is recommended for removal of this material from the skin.

Inhalation

Move victim to fresh air. Administer oxygen if breathing is difficult and you are trained. If breathing has stopped, contact emergency medical services immediately.

Ingestion

Do NOT induce vomiting. Rinse mouth. Drink plenty of water. Never give anything by mouth to an unconscious person. Consult a physician.

Protection of First-aiders

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Most important symptoms/effects, acute and delayed

Most Important Symptoms/Effects No information available.

Indication of immediate medical attention and special treatment needed, if necessary**Notes to Physician**

Keep victim warm and quiet.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical, CO₂, water spray or regular foam. Use water spray or fog; do not use straight streams. Move containers from fire area if you can do it without risk.

Unsuitable Extinguishing Media

CAUTION: All these products have a very low flash point. Use of water spray when fighting fire may be inefficient. Do not use a solid water stream as it may scatter and spread fire.

Specific Hazards Arising from the Chemical

Flammable. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Runoff to sewer may create fire or explosion hazard. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Vapor explosion hazard indoors, outdoors or in sewers. Substance may be transported hot. Those substances designated with a "P" may polymerize explosively when heated or involved in a fire.

Hazardous Combustion Products Carbon oxides. Oxides of sulfur. Nitrogen oxides (NOx). Hydrogen sulfide.

Explosion Data**Sensitivity to Mechanical Impact**

None.

Sensitivity to Static Discharge

Yes.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures**Personal Precautions**

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk.

Other Information

Water spray may reduce vapor; but may not prevent ignition in closed spaces.

Environmental Precautions**Environmental Precautions**

Prevent entry into waterways, sewers, basements or confined areas.

Methods and materials for containment and cleaning up**Methods for Containment**

A vapor suppressing foam may be used to reduce vapors. Dike far ahead of liquid spill for later disposal. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.

Methods for Cleaning Up

Use clean non-sparking tools to collect absorbed material.

7. HANDLING AND STORAGE

Precautions for safe handling**Handling**

Ensure adequate ventilation. Take precautionary measures against static discharges. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from heat, sparks and open flame. No smoking.

Conditions for safe storage, including any incompatibilities**Storage**

Keep tightly closed in a dry and cool place. Keep in properly labeled containers. Keep away from heat and sources of ignition.

Incompatible Products

Strong oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters**Exposure Guidelines**

| Chemical Name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|------------------------------------|--|----------|--|
| Asphalt 8052-42-4 | TWA: 0.5 mg/m ³ benzene soluble aerosol fume, inhalable fraction | - | Ceiling: 5 mg/m ³ fume 15 min |
| Fuels, diesel, no. 2 68476-34-6 | TWA: 100 mg/m ³ total hydrocarbons inhalable fraction and vapor S* | - | - |

| | | | |
|-------------------------------|---------------------------|---|---|
| Hydrogen sulfide 7783-06-4 | STEL: 5 ppm TWA: 1 ppm | (vacated) TWA: 10 ppm (vacated) TWA: 14 mg/m ³ (vacated) STEL: 15 ppm (vacated) STEL: 21 mg/m ³ Ceiling: 20 ppm | IDLH: 100 ppm Ceiling: 10 ppm 10 min Ceiling: 15 mg/m ³ 10 min |
|-------------------------------|---------------------------|---|---|

Immediately Dangerous to Life or Health.

Appropriate engineering controls

Engineering Measures Showers
 Eyewash stations
 Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tightly fitting safety goggles.
Skin and Body Protection Wear protective gloves/clothing.
Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. None required under normal usage.

Hygiene Measures When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | | | |
|-----------------------|----------------|-----------------------|--------------------------|
| Physical State | Liquid | Appearance | Black Viscous. |
| Odor | Petroleum like | Odor Threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks/ - Method</u> |
|---|-------------------|--------------------------|
| pH | No data available | None known |
| Melting Point/Range | 33 °F | None known |
| Boiling Point/Boiling Range | 212 °F | @ 760 mmHg |
| Flash Point | 54 °C / 130 °F | None known |
| Evaporation rate | No data available | None known |
| Flammability (solid, gas) | No data available | None known |
| Flammability Limits in Air | | |
| upper flammability limit | No data available | |
| lower flammability limit | No data available | |
| Vapor Pressure | No data available | None known |
| Vapor Density | No data available | None known |
| Relative Density | No data available | None known |
| Specific Gravity | 1 | at 25 °C |
| Water Solubility | Dispersible | None known |
| Solubility in other solvents | No data available | None known |
| Partition coefficient: n-octanol/water | No data available | None known |
| Autoignition Temperature | No data available | None known |
| Decomposition Temperature | No data available | None known |
| Viscosity | No data available | None known |

Flammable Properties Flammable; may be ignited by heat, sparks or flames. Vapors may cause flash fire or explosion. Containers may explode when heated.

Explosive Properties No data available
Oxidizing Properties No data available

Other information

VOC Content (%) No data available

10. STABILITY AND REACTIVITY

Reactivity

No data available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization does not occur.

Conditions to avoid

Heat, flames and sparks. Heating can release hazardous gases.

Incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

Hydrogen sulfide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation

No acute toxicity information is available for this product.

There is no data available for this product. Contains low levels of Hydrogen sulfide which may be released and can be fatal if inhaled at certain concentrations. May cause central nervous system effects such as headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure and death. Hydrogen Sulfide gas between 15 and 500 ppm can cause headache, nausea and dizziness. Continued exposure at these levels can lead to loss of reasoning and balance, difficulty in breathing, fluid in the lungs, and possible loss of consciousness. Greater than 500 ppm can cause rapid unconsciousness due to respiratory paralysis and death by suffocation. Greater than 1000 ppm can cause immediate unconsciousness and death if not promptly revived.

Eye Contact

There is no data available for this product. May cause irritation. Causes thermal burns

Skin Contact

There is no data available for this product. May cause skin irritation and/or dermatitis. Repeated exposure may cause skin dryness or cracking. May cause sensitization of susceptible persons. Hot liquid can cause severe burns.

Ingestion

Low order of toxicity based on components. May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Component Information

| Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|------------------|----------------------|-------------------------|----------------------|
| Asphalt | 5000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | - |
| Tall oil | = 7600 mg/kg (Rat) | - | - |
| Hydrogen sulfide | - | - | 712 ppm/1 hr (Rat) |

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms

No information available.

Delayed and immediate effects and also chronic effects from short and long term exposure

Sensitization No information available.
Mutagenic Effects No information available.
Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|----------------------|-------|----------|------------------------|------|
| Asphalt | | Group 2B | Reasonably Anticipated | X |
| Fuels, diesel, no. 2 | A3 | Group 3 | | |

ACGIH: (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC: (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

Group 3: Not Classifiable as to its Carcinogenicity to Humans

NTP: (National Toxicity Program)

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

Reproductive Toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Chronic Toxicity

Prolonged exposure may cause chronic effects. Prolonged or repeated contact may dry skin and cause irritation. Repeated contact may cause allergic reactions in very susceptible persons. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Chronic hydrocarbon abuse has been associated with irregular heart rhythms and potential cardiac arrest. The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence that undiluted, air-refined asphalt is carcinogenic to experimental animals. Limited evidence exists that undiluted steam-refined and cracking residue asphalts is carcinogenic to animals. Additionally, IARC has concluded that there is inadequate evidence that asphalts alone are carcinogenic to humans. Repeated long term skin application of similar petroleum crudes have been shown to cause skin cancer in laboratory animals.

Hydrogen sulfide (H₂S), a colorless, rotten-egg smelling, minor component of this product, can affect the body if it is inhaled or if it comes in contact with the eyes, skin, nose or throat. Odor cannot be used as an indication of its presence since exposure to H₂S causes loss of the sense of smell. Inhalation of high concentrations of hydrogen sulfide (>1000 ppm) may cause coma, convulsions, and death after a single overexposure due to its ability to be a rapidly acting systemic poison that causes respiratory paralysis. Lower and prolonged doses can cause severe respiratory tract irritation and inflammation including eye irritation and damage and central nervous system effects such as headache, fatigue, irritability, insomnia, and stomach upset. Pneumonitis (chemically induced pneumonia) can also occur.

Target Organ Effects

Respiratory system. Skin. Central nervous system (CNS).

Aspiration Hazard

No information available.

Numerical measures of toxicity - Product**12. ECOLOGICAL INFORMATION****Ecotoxicity**

Harmful to aquatic life with long lasting effects.

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

| Chemical Name | Log Pow |
|---------------|---------|
| Asphalt | 6.006 |
| Tall oil | 8.2 |

Other Adverse Effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Should not be released into the environment. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of in accordance with local regulations.

US EPA Waste Number D001

| Chemical Name | RCRA | RCRA - Basis for Listing | RCRA - D Series Wastes | RCRA - U Series Wastes |
|---------------------------------|-------------------|--------------------------|------------------------|------------------------|
| Hydrogen sulfide - 7783-06-4 | waste number U135 | | | U135 |

14. TRANSPORT INFORMATION

DOT

UN-Number NA1993
Proper shipping name Combustible liquid, n.o.s.
Hazard Class Combustible liquid
Packing Group III
Description NA1993,Combustible liquid, n.o.s.(Asphalt),Combustible liquid,,PG III
Emergency Response Guide Number 128

TDG

UN-Number UN1993
Proper Shipping Name Flammable liquid, n.o.s.
Hazard Class 3
Packing Group III
Description FLAMMABLE LIQUID, N.O.S.(Hydrogen sulfide),3,UN1993,PG III

MEX

UN-Number UN1993
Proper Shipping Name Flammable liquids, n.o.s.
Hazard Class 3
Packing Group III
Description UN1993 Flammable liquids, n.o.s.(Hydrogen sulfide),3,III

ICAO

UN-Number UN1993
Proper shipping name Flammable liquid, n.o.s.
Hazard Class 3
Packing Group III
Description Flammable liquid, n.o.s.(Hydrogen sulfide),3,UN1993,PG III

IATA

UN-Number UN1993
Proper Shipping Name Flammable liquid, n.o.s.
Hazard Class 3
Packing Group III
ERG Code 3L
Description UN1993,Flammable liquid, n.o.s.(Hydrogen sulfide),3,PG III

IMDG/IMO

UN-Number UN1993
Proper Shipping Name Flammable liquid, n.o.s.
Hazard Class 3
Subsidiary Class +
Packing Group III
EmS No. F-E, S-E

Description UN1993, Flammable liquid, n.o.s.(Hydrogen sulfide),3(+),PG III

RID

UN-Number UN1993
Proper Shipping Name Flammable liquid, n.o.s.
Hazard Class 3
Packing Group III
Classification Code F1
Description UN1993 Flammable liquid, n.o.s.(Hydrogen sulfide),3,III,RID
ADR/RID-Labels 3

ADR

UN-Number UN1993
Proper Shipping Name Flammable liquid, n.o.s.
Hazard Class 3
Packing Group III
Classification Code F1
Description UN1993 Flammable liquid, n.o.s.(Hydrogen sulfide),3,III

ADN

UN-No UN1993
Proper Shipping Name Flammable liquid, n.o.s.
Hazard Class 3
Packing Group III
Classification Code F1
Special Provisions 274, 330, 601, 640E
Description UN1993 Flammable liquid, n.o.s.(Hydrogen sulfide),3,III
Hazard Labels 3
Limited Quantity LQ7
Ventilation VE01

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

U.S. Federal Regulations

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

| Chemical Name | CAS-No | Weight % | SARA 313 - Threshold Values % |
|---------------|-----------|----------|-------------------------------|
| Asphalt | 8052-42-4 | 70 | 0.1 |

SARA 311/312 Hazard Categories

Acute Health Hazard Yes
Chronic Health Hazard Yes
Fire Hazard Yes
Sudden Release of Pressure Hazard No
Reactive Hazard No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

U.S. State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

| Chemical Name | New Jersey | Massachusetts | Pennsylvania | Illinois | Rhode Island |
|----------------------|------------|---------------|--------------|----------|--------------|
| Asphalt | X | X | X | | X |
| Fuels, diesel, no. 2 | X | | | | |
| Hydrogen sulfide | X | X | X | | X |

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

| | | | | |
|-------------|-------------------------|-----------------------|--------------------------|--|
| NFPA | Health Hazard 2 | Flammability 2 | Instability 0 | Physical and Chemical Hazards - |
| HMIS | Health Hazard 2* | Flammability 2 | Physical Hazard 0 | Personal Protection X |

Prepared By

Product Stewardship
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1-800-572-6501

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Revision Note

Update to Format.

General Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet