

Michigan Paving & Materials Company

Revision Date: 11/26/18

Section 1. Identification

PRODUCT identifier Cutback Petroleum Asphalt; MC Liquid Asphalt

OTHER means of identification

Synonyms/TRADE NAME: MC-30, MC-70, MC-250, MC-800, MC-3000, SCM, permacoat, MC250A, MC3000A

Recommended use: Construction Material/road surfacing

Recommended Restrictions:

Manufacturer/Importer/Supplier/Distributor information

Company Michigan Paving & Materials

Name Monroe Terminal

Locations 3125 E. Front Street, Monroe MI 48161

Alma Terminal

1950 Williams St., Alma, MI 48801

Telephone Monroe Terminal: 734-337-2053

Alma Terminal: 989-402-5932

Website <http://michiganpaving.com>

Emergency phone number 8-5 (M-F EST) 734-337-2053

Chemtrec: 800-424-9300

For technical assistance regarding this product, contact your local Michigan Paving & Materials Company representative.

2 HAZARDS IDENTIFICATION

GHS Hazard Classification(s): Flammable Liquids – Category 3
Skin Corrosion Irritation – Category 2
Serious Eye Damage / Eye Irritation – Category 2B
Carcinogenicity – Category 1B
Acute Aquatic Toxicity – Category 2

Pictograms



Signal Word: WARNING!

Hazard Statements

Flammable Liquid and vapor

H351 - Suspected of causing cancer..

May release toxic hydrogen sulfide gas that could accumulate at toxic concentrations inside containers of heated asphalt

H304 May be fatal if swallowed and enters airways.

H319: Causes serious eye irritation

H332: Harmful if inhaled

H335: May cause respiratory irritation

H316 Causes mild skin irritation.

Harmful to aquatic life

Precautionary Statements

Blended asphalt products are molten when heated above 200 °F and heated material may cause thermal burns. The cured, inert semi solid material is considered non hazardous.

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P260: Do not breathe dust/fume/gas/mist/vapors/spray

P264: Wash hands thoroughly after handling

P271: Use only in well-ventilated area.

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P262 Do not get in eyes, on skin, or on clothing.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Avoid release to the environment

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash hands and any contacted skin thoroughly after handling. Wear protective gloves of materials such as leather or thick rubber, and long sleeved clothing. Wear safety eye glasses with side shields, and if needed to prevent splattering onto face, wear face shield.

Response: If exposed or concerned: Get medical advice or attention.
If on skin: Wash with plenty of water and hand cleaner. .
If skin irritation occurs: Get medical attention.
Take off contaminated clothing and wash it before reuse.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical attention.

Storage: Store locked up.

Disposal: Dispose of contents/containers in accordance with local, state and national regulations.

Hazard(s) not otherwise classified (HNOC): Hot Liquid May Cause Thermal Burns
May Release Hydrogen Sulfide Gas

Section 3. Composition/Information on Ingredients

Mixture

Component	CAS Number	Weight %
Asphalt	8052-42-4	20-80%
#1 Fuel Oil Kerosene	8008-20-6	5-50
Fuels, diesel, No2	68476-34-6	0-10%
Mineral Spirits	64742-47-8	
Biodiesel	mixture	
Anti-Strip (proprietary)	Mixture	0-1%
Hydrogen Sulfide	7783-06-4	<1%

Section 4. First Aid Measures

- Inhalation:** Safely remove the victim from exposure. DO NOT ATTEMPT TO RESCUE WITHOUT ADEQUATE PROTECTIVE GEAR AND PROPER TRAINING. Remove to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.
- Skin Contact**
- For hot material, immerse or flush skin with large amounts of the coldest water possible. Cover with clean cotton sheeting or gauze. Remove clothing if not sticking to skin. DO NOT try to remove solidified material for the skin as the damaged flesh can be easily torn. DO NOT try to dissolve with solvents or thinners. GET IMMEDIATE MEDICAL ATTENTION.
- For cold material, remove cold material with waterless hand cleaner and wash with plenty of soap and water while removing contaminated clothing and shoes. Get medical attention if irritation persists.
- Eye Contact**
- Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. GET IMMEDIATE MEDICAL ATTENTION.
- After contact with hot material, lay person flat on their back, remove contact lenses if easy to do and flush with water from a continuous stream for at least 20 minutes by allowing water to flow over the bridge of the nose to the eyes. GET IMMEDIATE MEDICAL ATTENTION IMMEDIATELY.
- Ingestion**
- If large quantities of this material are accidentally ingested, do not induce vomiting. If spontaneous vomiting occurs keep head below hips to prevent aspiration and monitor for breathing difficulty. GET IMMEDIATE MEDICAL ATTENTION.

Most important symptoms/effects, acute and delayed

- Adverse Effects** Frequent or prolonged contact with cold material may cause irritation. Additional effects may include skin sensitization/ Exposure to hot melted material can cause thermal burns

SPECIAL TOXIC EFFECTS

Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: skin and lung. Exposure may cause the following specific symptoms, depending on the concentration and duration of exposure: fatigue, reduced appetite and respiratory effects.

Irritation and toxic hydrogen sulfide gas may be found in confined vapor space. WARNING –rotten egg odor of hydrogen sulfide is not a reliable indicator for warning of exposure since odor fatigue readily occurs. Odor sensation lost immediately at concentrations greater than 20 ppm. Avoid exposures to hydrogen sulfide gases. Hydrogen sulfide causes rapid death due to metabolic asphyxiation. Case reports suggest that toxic amounts can enter the body through a punctured ear drum, even while wearing some types of respiratory protective equipment. This material contains petroleum asphalt. IARC has determined asphalt cement to have a 2B Classification; possibly carcinogenic to humans.

In solution, asphalts can produce skin cancer in animals following prolonged and repeated contact. Therefore, IARC has concluded that there is sufficient evidence for the carcinogenicity of asphalt extracts or cutbacks (asphalts that are diluted, dissolved or liquefied in hydrocarbon solvents) in experimental animals, implication these products as potentially carcinogenic to humans. While brief or intermittent skin contact with this product is not expected to cause harm, those workers who do not practice good personal hygiene and who are exposed repeatedly via skin contact may be at risk. It is important that all precautionary measures outlined in this MSDS be followed.

Asphalt fumes from heated material may cause eye, respiratory tract and skin irritation. These fumes may cause dermatitis and acne-like lesions as well as mild keratoses on prolonged and repeated exposure. However, inhalation studies on inhaled asphalt fumes in laboratory animals did not produce lung cancer. To date, human studies also have not established a link between lung cancer and asphalt fume exposure.

This material may contain polynuclear aromatic hydrocarbons (PNAs). Repeated or prolonged exposure to some PNAs has been associated with effects to the liver, kidneys, immune system and skin with warty growths, skin burns, pigmentation of the bare skin and cornification of the surface layers. They have also been associated with anemia, photosensitivity, leukoplakia (white patches on the tongue, cheek or gums), edema of the eyelids,

conjunctival hyperemia, lacrimation, photophobia, headache, loss of appetite, vital powers and strength, cough, bronchitis and nausea.

This material may contain untreated or mildly treated mineral oils. This material may contain solvent extract oils. IARC has determined that there is sufficient evidence for the carcinogenicity of these oils in experimental animals. Pre-existing medical conditions which may be aggravated by exposure include disorders of the kidney, liver skin and respiratory system.

Indication of immediate medical attention and special treatment needed

NOTES TO PHYSICIAN

If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

For skin contact with hot asphalt material, do not peel the solidified material from the skin, or use solvents such as gasoline, kerosene, or paint thinner to remove. Cooled asphalt may adhere so tenaciously to the skin that attempted removal may cause severe distress to the patient. Covering the affected area using commercially available preparations containing the emulsifying agent polysorbate (Tween 80), or an antibiotic cream in a polysorbate base is the most effective method to dissolve the solidified asphalt. Asphalt can also be slowly dissolved with vegetable oil, baby oil or mineral oil.

General information

HEALTH HAZARDS

Emulsified asphalt is a dark brown to black liquid emulsion. This asphalt is fluid at 150-200 degrees F. This product is not a flammable or combustible material per the OSHA hazard communication standard, but will burn when heated to extremely high temperatures.

When heated, this product may release toxic hydrogen sulfide vapors – do not rely on odor for warning

Fumes from heated material may be irritating and hazardous

May be irritating to the skin, eyes and respiratory tract

Heated material may cause thermal burns

May cause allergic skin reaction

Aspiration hazard if swallowed-can enter lungs and cause damage

Contains material which can cause cancer

**** SEE SPECIAL TOXIC EFFECTS SECTION FOR MORE INFORMATION**

Section 5. Fire Fighting Measures

Extinguishing Media

Suitable Extinguishing Media: Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂), Class B

Unsuitable Extinguishing Media: Do not use water when molten material is involved. Use of water on hot/molten product will result in a violent expansion as the water turns to steam causing explosion with massive force.

Specific hazards arising from the chemical

Fire Hazard Combustible at high temperatures. May release flammable gases/vapors. Flammable vapors can accumulate in head space of closed systems and in areas of insufficient ventilation.

Explosion Hazard

Product is not explosive. However, thermal decomposition may generate fumes that are flammable or explosive. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide. Hydrogen sulfide is a highly flammable, toxic gas.

Reactivity

Asphalt may be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreactive material and other nearby combustibles. If heated sufficiently or ignited in the presence of air, oxygen or strong oxidizing agents, can burn exothermically. May be ignited by strong oxidizing

Special protective equipment and precautions for firefighters:

agents.
Firefighters must wear MSHA/NIOSH approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment. Withdraw immediately from the area if there is a rising sound from a venting safety device or discoloration of vessels, tanks, or pipelines.

Fire fighting equipment/instructions:

Do not breathe fumes from fires or vapors from decomposition: May release poisonous hydrogen sulfide. Do not allow run-off from firefighting to enter drains or water sources.

Protection During Firefighting:

Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products:

Fire involving this product may release carbon monoxide, carbon dioxide, reactive hydrocarbons and hydrogen sulfide.

NFPA: Health 2 Flammability 2 Instability 0 Special Hazards –

Section 6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures	General Measures: Do not breathe dust, vapor, or gas. Avoid all contact with skin, eyes, or clothing.
For Non-Emergency Personnel	Protective Equipment: Use appropriate personal protection equipment (PPE). Emergency Procedures: Evacuate unnecessary personnel.
For Emergency Personnel	Protective Equipment: Equip cleanup crew with proper protection. Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.
Environmental Precautions	Prevent entry to sewers and public waters. Notify authorities and NRC 800-424-8801 if product has entered the waterway or Sewer.
Methods and Material for Containment and Cleaning Up	For Containment: Cool molten material to limit spreading. Methods for Cleaning Up: Allow liquid material to solidify before cleaning up. Place spilled material into a container. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin. Wear appropriate protective equipment as described in Section 8. Do not wash asphalt down sewage and drainage systems or into bodies of water (e.g. streams).

Section 7. Handling and Storage

Precautions for safe handling:

Additional Hazards When Processed:	If stored under heat for extended periods or significantly agitated, this material might evolve or release hydrogen sulfide, a flammable gas. Hydrogen sulfide is a toxic gas that can be fatal. Exercise caution and ensure adequate ventilation.
Precautions for Safe Handling:	Do not handle until all safety precautions have been read and understood. Protect skin and eyes from contact with molten material. Do not breathe dust or fumes.
Conditions for safe storage, including incompatibilities	Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Incompatible Materials: Strong acids. Strong bases. Strong oxidizers (such as nitrates, chlorates, and peroxides). Fluorine. Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize,

	cut, heat, weld or expose such containers to sources of ignition. Store in a well-ventilated area. Avoid storage near incompatible materials. Hydrogen sulfide may accumulate in tanks and bulk transport compartments. Consider appropriate respiratory protection (see Section 8). Stand upwind. Avoid vapors when opening hatches and dome covers. Confined spaces should be ventilated prior to entry.
Specific End Use(s)	Asphalt is used as a binder in asphalt paving applications such as paving roads, driveways, parking lots and other surface, base, or sub-base applications.

Section 8. Exposure Controls / Personal

Product Information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA – Vacated PELs – Time Weighted Ave
Petroleum Asphalt	8052-42-4	20-60%	=0.5 mg/m ³ TWA	

Component Information:

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA – Vacated PELs – Time Weighted Ave
Petroleum Bitumen (proprietary)	Mixture	20-60%	=0.5 mg/m ³ TWA (inhalable fraction, as benzene-soluble aerosol)	
#1 Fuel Oil Kerosene Fuels, diesel, No2	8008-20-6	5-50	200 mg/m ³ TWA	
Biodiesel	68476-34-6 mixture	0-10%	Distillates (petroleum), TWA 100 mg/m ³	
Mineral Spirits	64742-47-8	0-10%	212 ppm, 8hr TLV	
Anti-Strip (proprietary)	Mixture	0-1%	ND	
Hydrogen Sulfide	7783-06-4	<1%	= 1 ppm TWA =5 ppm STEL	=10 ppm TWA =15 mg/m ³ TWA =10 ppm REL (ceiling) =100 ppm (IDLH)
*Naphthalene	91-20-03	<1%	10 ppm TWA 15 ppm STEL	TWA: 10 ppm TWA: 50 mg/m
*Ethylbenzene		<0.4%	20 ppm TWA	TWA: 100 ppm TWA: 435 mg/m ³


ND= Not Determined




*Values do not reflect absolute minimums and maximums; these are typical values which may vary from time to time.

The specific identities of some of the components of this product are being withheld as trade secrets. However, all pertinent hazards are addressed in this SDS.

Asphalt Products can contain hydrogen sulfide, because it is naturally occurring in crude oil from which asphalt is derived. Hydrogen sulfide can also be present as a by-product of asphalt processing.

Exposure Controls

Appropriate Engineering Controls:	Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment should be equipped with proper dust collection devices.
Personal Protective Equipment:	Gloves. Protective goggles. Protective clothing. Insufficient ventilation: wear respiratory protection.
Materials for Protective Clothing: 	Suitable materials with adequate protection.

Hand Protection: 	Protective Gloves.
Eye Protection: 	Chemical goggles. Wearing contact lenses under dusty conditions is not recommended.
Skin and Body Protection:	Wear suitable protective clothing
Respiratory Protection: 	When first opening tank trucks, railcars, or other containers, it is recommended to wear appropriate NIOSH approved respiratory protection. Appropriate NIOSH approved respiratory protection must be worn if material is heated and/or generates asphalt fumes and/or hydrogen sulfide above the OSHA and ACGIH recommended limits.

Section 9. Physical and Chemical Properties

ODOR AND APPEARANCE

Appearance: DARK BROWN TO BLACK VISCOUS LIQUID

Physical State: Liquid

Color: Black-Brown

Odor: Mild Kerosene/Diesel Odor

Boiling Point: NA

Specific Gravity: 0.92-1.02

Melting Point: NA

Percent Volatile: >5 %

Vapor Pressure: NA

Vapor Density: >1.6

Bulk Density: ND

Solubility in Water: negligible

Octanol/Water Partn: NA

Volatile Organic: NA

Pour Point: ND

PH Value: ND

Freezing Point: NA

Viscosity: 30-10,000 cSt @ 140 F (60 C)

Evaporation Rate: ND

Molecular Formula: NA

Molecular Weight: ND

Chemical Family: Hydrocarbons

Odor Threshold: ND

Section 10. Stability and Reactivity

Reactivity:	Incompatible with oxidizing agents. Charring may occur followed by ignition of unreactive material and other nearby combustibles. If heated sufficiently or ignited in the presence of air, oxygen or strong oxidizing agents, can burn exothermically. May be ignited by strong
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	oxidizing agents.
Chemical Stability:	Combustion may produce CO, NOx, SOx, and reactive hydrocarbons. Combustion may produce hydrogen sulfide, toxic and irritating vapors.
Possibility of Hazardous Reactions:	Hazardous polymerization will not occur.
Conditions to Avoid:	Excessive heat, sources of ignition, open flame. Extremely high or low temperatures. Incompatible materials.
Incompatible Materials:	Strong acids. Strong bases. Strong oxidizers (such as nitrates, chlorates, and peroxides). Fluorine.
Hazardous Decomposition Products:	Combustion may produce CO, NOx, SOx, and reactive hydrocarbons. Combustion may produce hydrogen sulfide, toxic and irritating vapors.

Section 11. Toxicological Information

Information on Toxicological Effects - Product

LD50 and LC50 Data:	Not available
Skin Corrosion/Irritation:	Not classified
Serious Eye Damage/Irritation:	Not classified
Respiratory or Skin Sensitization:	Not classified
Germ Cell Mutagenicity:	Not classified
Teratogenicity:	Not available
Carcinogenicity:	Suspected of causing cancer
Specific Target Organ Toxicity (Repeated Exposure):	Not classified.
Reproductive Toxicity:	Not classified
Specific Target Organ Toxicity (Single Exposure):	Not classified
Aspiration Hazard:	Not classified
Symptoms/Injuries After Inhalation:	Exposure to fumes, vapors, or dust may cause irritation of the nose, throat, and respiratory system. Hot material releases irritating fumes or vapors; symptoms may include headache, dizziness, loss of coordination, and drowsiness. WARNING: irritating and toxic hydrogen sulfide gas may be present. Greater than 15-20ppm continuous exposure can cause mucous membrane and respiratory tract irritation. 50-500 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 500ppm can cause rapid unconsciousness and death if not promptly revived.
Symptoms/Injuries After Skin Contact:	Dust may cause dry skin, discomfort, irritation and dermatitis. Hot product will cause severe burns.
Symptoms/Injuries After Eye Contact:	Eye contact to airborne dust may cause immediate or delayed irritation or inflammation. Hot product will cause severe burns. Eye exposures may require immediate first aid and medical attention to prevent significant damage to the eye.
Symptoms/Injuries After Ingestion:	Do not ingest asphalt. Ingestion of small quantities of asphalt is not known to be harmful; ingesting large quantities can cause intestinal distress. May cause nausea, vomiting, and diarrhea.
Chronic Symptoms:	Emissions from asphalt are suspected of causing cancer. Product may contain polynuclear aromatic hydrocarbons (PNAs). Evidence from animal studies indicates that prolonged exposure to various PNAs can cause cancer of the lungs, skin, and other organs.

Information on Toxicological Effects - Ingredient(s)

Asphalt (8052-42-4)	LD50 Oral Rat > 5000 mg/kg LD50 Dermal Rabbit > 2000 mg/kg LC50 Inhalation Rat > 94.4 mg/m ³
Hydrogen Sulfide (7783-06-4)	Acute Inhalation LC50 Mouse: > 0.024 mg/L 960 minutes Acute Inhalation LC50 Rat: > 0.38 mg/L 960 minutes Acute Inhalation LC50 Monkey: 0.7 mg/L 35 minutes

	Inhalation LC50 Rat: 712 ppm (1-hour exposure) Inhalation LC50 Mouse: 634 ppm (1-hour exposure)
Asphalt (8052-42-4)	IARC Group 2B National Toxicology Program (NTP) Status: Twelfth Report - Items under consideration. OSHA Hazard Communication Carcinogen List: In OSHA Hazard Communication Carcinogen list.

Section 12. Ecological Information

Toxicity

Hydrogen Sulfide (7783-06-4)	Very toxic to aquatic organisms.
Persistence and Degradability	Not available
Bioaccumulative Potential	BCF Fish 1: (no bioaccumulation expected) Log Pow: > 6
Mobility in Soil	Not available
Other Adverse Effects	Not available

Section 13. Disposal Considerations

WASTE DISPOSAL

This product, as shipped, when discarded or disposed of, will not be a hazardous waste according to Federal regulations. Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the product to determine, at the time of disposal, whether the material is a hazardous waste subject to RCRA.

The transportation, storage, treatment and disposal of RCRA waste material must be conducted in compliance with 40 CFR 262, 263, 264, and 270. Disposal can occur only in properly permitted facilities. Check state and local regulations for any additional requirements, as these may be more restrictive than federal laws and regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Disposal of this material must be conducted in compliance with all federal, state and local regulations.

Section 14. Transport Information

In Accordance with DOT

Proper Shipping Name: Asphalt/Cutback

Hazard Class: 3

Identification Number: UN1999

Label Codes: 3

Packing Group: III

Section 15. Regulatory Information

US Federal Regulations

Asphalt (8052-42-4)	Listed on the United States TSCA (Toxic Substances Control Act) inventory SARA Section 311/312 Hazard Classes: Delayed (chronic) health hazard
Hydrogen Sulfide (7783-06-4)	CERCLA/SARA Section 302 EHS: 500 lb TPQ CERCLA/SARA 313: 1.0% de minimis concentration

US State Regulations

Asphalt (8052-42-4)	Right To Know List
Hydrogen Sulfide (7783-06-4)	Right To Know List

Section 16. Other Information

Additional Information

The following sections contain revisions or new statements: 1-16.

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.