Anionic Medium Setting Emulsion

SECTION 1. IDENTIFICATION

Product Identifier	Anionic Medium Setting Emulsion
Other Means of Identification	(i)MS-1; (ii) MS-2; (iii)MS-4 (AS); (iv)MS-5 (AS); (v)CM-100 (vi)MS-2 GWS, Colasphalt CSPE
Product Family	Anionic Emulsion
Recommended Use	Cold mixed, cold laid pavement.
Restrictions on Use	None known.
Manufacturer/Supplier Identifier	McAsphalt Industries Ltd, 8800 Sheppard Ave East, Toronto, Ontario, M1B 5R4, 416-281-8181
Emergency Phone No.	CANUTEC, (613) 996 - 6666, 24 hours
	McAsphalt Industries Ltd., 1 - (800) - 268 - 4238, 8AM-5PM Monday to Friday

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015).

Classification

Acute toxicity (Inhalation) - Category 4; Carcinogenicity - Category 2

Label Elements

Warning
Harmful if swallowed, in contact with skin or if inhaled.
Avoid contact with heated asphalt and water
IF exposed or concerned: Get medical advice/attention.

Other Hazards

Dark Black-Brown. characteristic asphaltic odour or "rotten egg" odour if H2S present, but odour is an unreliable warning, since it may deaden the sense of smell. Prolonged or repeated skin contact can cause drying of the skin which may produce irritation or dermatitis.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Asphalt (Bitumen)	8052-42-4	55-75		
Water	7732-18-5	25-45		
FUEL OIL NO. 2	68476-30-2	0-12		
Stoddard solvent	8052-41-3	0-4		
Styrene-butadiene copolymers	9003-55-8	0-3		

Notes

Some mixtures may contain Potassium Hydroxide (KOH) or Sodium Hydroxide (NaOH) as caustic additives for emulsifiers.
During storage or transit of hot asphalt, hydrogen sulphide may be generated. The composition and percentages listed will vary based on the product type.

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Move to fresh air. Seek Medical Help.

Skin Contact

Avoid direct contact. Wear chemical protective clothing if necessary. For hot asphalt splash, cool affected body part with water immersion or shower. Do not attempt to remove asphalt from the skin. Once the bitumen has cooled, it will do no further harm and in fact provide a sterile covering over a burnt area. As healing takes place, the bitumen plaque, the bitumen plaque will detach itself, usually after a few days. For skin soiling without underlying burn, cleanse with mineral oil followed by soap and water. Use olive oil in vicinity of eyes.

Eye Contact

Get medical attention immediately. Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open.

Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconcious person. Get medical attention immediately.

First-aid Comments

If exposed or concerned, get medical advice or attention.

Most Important Symptoms and Effects, Acute and Delayed

Inhalation of this product may cause respiratory tract irritation and Central Nervous System (CNS) Depression, symptoms of which may include' weakness, dizziness, slurred speech, drowsiness, unconsciousness and in cases of severe over exposure; coma and death. At higher concentrations (above 10 ppm), hydrogen sulphide is extremely toxic by inhalation, may cause respiratory-tract irritation and respiratory failure, coma and death. Pulmonary edema can occur up to 24 hours after hydrogen sulphide exposure. While hydrogen sulphide emits a strong odour of rotten eggs, detection by smell is not sufficient as a warning property for exposure to this substance, as it may deaden the sense of smell quickly.
Repeated or prolonged exposure can irritate the skin. Symptoms include pain, redness, and swelling.
If in eyes: may cause moderate to severe irritation. Symptoms include sore, red eyes, and tearing.
If swallowed: can burn the lips, tongue, throat and stomach. Symptoms may include nausea, vomiting, stomach cramps and diarrhea.

Immediate Medical Attention and Special Treatment

Special Instructions

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire.

Unsuitable Extinguishing Media

Do not spray water onto tank, vessel containing liquid asphalt as water reacts violently with product at elevated temperatures; risk of steam explosion.

Specific Hazards Arising from the Product

Not flammable
Heating increases the release of toxic vapour. non combustible materials but under fire conditions this product may

emit toxic and/or irritating fumes and gases including carbon monoxide and carbon dioxide.

Special Protective Equipment and Precautions for Fire-fighters

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary. Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventillation. Wear apporpriate respirator when ventillation is inadequate. Put on apporpriate personal protective equipment (see Section 8).

Methods and Materials for Containment and Cleaning Up

Stop or reduce leak if safe to do so. Ventilate the area to prevent the gas from accumulating, especially in confined spaces. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Dike spilled product to prevent runoff. Remove or recover liquid using pumps or vacuum equipment. Contact emergency services and manufacturer/supplier for advice.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid generating dusts. Avoid generating vapours or mists. Only use where there is adequate ventilation. Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). Wear personal protective equipment to avoid direct contact with this chemical.
It is good practice to: avoid breathing product; avoid skin and eye contact and wash hands after handling. Do NOT smoke in work areas. Do NOT eat, drink or store food in work areas. Remove contaminated clothing and protective equipment before entering eating areas or leaving work area.

Conditions for Safe Storage

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and 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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

	ACGIH TLV®		OSHA PEL		AIHA WEEL	
Chemical Name	**TWA**	**STEL**	**TWA**	**Ceiling**	**8-hr TWA**	**TWA**
Asphalt (Bitumen)	0.5 mg/m3 (I) A4 BEI		Not established			
Styrene-butadiene copolymers	3 mg/m3 (R)					
FUEL OIL NO. 2	100 mg/m3					

Appropriate Engineering Controls

If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits. Use only with adequate ventilation. Exhaust ventilation/engineering controls need to keep vapour and gas concentrations below recommended limits and below any lower explosive limits.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles. If a risk assessment indicates that it is necessary to avoid exposure to liquid splashes, mists or dusts, then safety eyewear complying with an approved standard should be used.

Skin Protection

Wear chemical protective clothing e.g. gloves, long sleeves, boots.

If a risk assessment indicates it is necessary, chemical-resistant, imperious gloves complying with an approved standard should be worn at all times when handling chemical products. Suitable materials are: nitrile rubber nitrile rubber. Leather or Aluminize Gloves.

Respiratory Protection

If a risk assessment indicates that it is necessary (i.e. H2S concentration is above 10ppm exposure limit), use a properly fitted, air-purifying or air-fed respirator complying with an approved standard. 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. Recommended: organic vapour filter cartridge or canister with a dust, fume or mist filter (R, or P series) may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Dark black - brown.
Odour	Characteristic asphaltic odour or "rotten egg" odour if H2S present, but odour is an unreliable warning, since it may deaden the sense of smell. (Asphalt (Bitumen))
Odour Threshold	Not applicable
pH	10.5 - 12.0
Melting Point/Freezing Point	Not available (melting); 0 ºC (freezing)
Initial Boiling Point/Range	100 ºC (212 ºF) (estimated)
Flash Point	> 100 ºC
Evaporation Rate	Not applicable
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not applicable (upper); Not applicable (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not applicable
Relative Density (water = 1)	Not available
Solubility	Insoluble in water
Partition Coefficient, n-Octanol/Water (Log Kow)	Not applicable
Auto-ignition Temperature	Not applicable
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)

Other Information

Physical State	Liquid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Contact between heated Asphalt and water can cause a violent eruption.

Conditions to Avoid

Under normal conditions of storage and use, hazardous polymerisation will not occur.

Incompatible Materials

Acides. Bases. Oxidizers.

Hazardous Decomposition Products

May release COx, NOx, SOx, POx, H2S, hydrocarbons, smoke and irritating vapours when heated to decomposition.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Skin contact; eye contact; inhalation.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Asphalt (Bitumen)	> 94.4 mg/m3 (rat)	> 5000 mg/kg (rat)	> 2000 mg/kg (rabbit)
Water		> 89840 mg/kg (rat)	
FUEL OIL NO. 2		~ 12000 mg/kg (rat)	

Skin Corrosion/Irritation

May cause mild irritation to skin. Signs/symptoms may include localized redness, swelling, and itching. Hot liquid product may cause serious thermal burns on direct contact. Asphalt fumes can increase susceptibility to sunburn.

Serious Eye Damage/Irritation

Hot liquid product may cause thermal burns. The vapour/gas also irritates the eyes. Permanent damage including blindness can result. Contact causes severe burns with redness, swelling, pain and blurred vision.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

At higher concentrations of H2S (above 10 ppm), hydrogen sulphide is extremely toxic by inhalation, may cause respiratory-tract irritation, nose and throat irritation, depression of the central nervous system, respiratory failure, unconsciousness and/or death. Pulmonary edema can occur up to 24 hours after hydrogen sulphide exposure. While hydrogen sulphide emits a strong odour of rotten eggs, detection by smell is not sufficient as a warning property for exposure to this substance, as it may deaden the sense of smell quickly.

Skin Absorption

Thermal burns from heat.

Ingestion

Not a relevant route of exposure (gas). Can irritate the mouth, throat and stomach. Can burn the lips, tongue, throat and stomach. Symptoms may include nausea, vomiting, stomach cramps and diarrhea.

Aspiration Hazard

Not known to be an aspiration hazard.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Prolonged or repeated contact may dry skin and cause irritation. This product contains small quantities of Polycyclic aromatic hydrocarbons. Prolonged contact with these compounds has been associated with the induction of skin and lung turmours, anemia, disorders of the liver, bone marrow and lymphoid tissues. Long term inhalation of Benzene or Xylene vapours can result in bone marrow abnormalities with damage to blood forming tissues and may cause anemia and other blood cell abnormalities. Immunodepressive effects have also been reported. Hydrogen sulphide may reduce lung function; cause neurological effects such as headaches, nausea, depression and personality changes; eye amd mucos membrane irritation: damage to cardiovascular system.

Respiratory and/or Skin Sensitization

Skin irritation, the symptoms may include redness and itching and swelling it may irritate the respiratory system. Repeated exposure to high concentrations of hydrogen sulphide (above 10ppm) may reduce lung function; cause neurological effects such as headaches, nausea, depression and personality changes; eye and mucus membrane irritation: damage to cardiovascular system.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Asphalt (Bitumen)	Group 2B	A4		
FUEL OIL NO. 2	Group 3	A3	Not Listed	

The International Agency for Research on Canacer (IARC) has determined that occupational exposures to oxide asphalt amd their emissions during roofing operations are "probably carcinogenic to humans" (Group A). IARC concluded that occupational exposures to hard asphalts and their emissions during mastic asphalt work are "possibly carcinogenic to humans" (Group 2B). IARC concluded that occupational exposure to straight-run asphalts and their emissions during paving operations are "possibly carcinogenic to humans" (Group 2B).
An IARC working group has concluded that occupational exposures to straight-run bitumens and their emissions during road paving are 'possibly carcinogenic to humans' (Group 2B).

Reproductive Toxicity

Development of Offspring

Not available.

Sexual Function and Fertility

Not available.
No known significant effects or critical hazards.

Effects on or via Lactation

Not known to cause effects on or via lactation.

Germ Cell Mutagenicity

Not available.
No known significant effects or critical hazards.

Interactive Effects

Not Available

SECTION 12. ECOLOGICAL INFORMATION

Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable under Federal and Provincial regulations.

Ecotoxicity

Marine Pollutant.

Persistence and Degradability

No ingredient of this product or its degradation products is known to be highly persistent.

Bioaccumulative Potential

This product and its degradation products are not known to bioaccumulate.

Mobility in Soil

Studies are not available.

Other Adverse Effects

There is no information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction. Recycle and reuse product, if possible. The required hazard evaluation of the waste and compliance with the applicable hazardous waste laws are the responsibility of the user. Do not reuse empty containers. Dispose of or recycle empty containers through an approved waste management facility.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations.

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

All ingredients are listed on the DSL/NDSL. The components of this product are in compliance with the chemical notification requirements of the NSN regulation under CEPA.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

All ingredients are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.

SECTION 16. OTHER INFORMATION

NFPA Rating	**Health - 1 Flammability - 1 Instability - 0**
SDS Prepared By	EPC & Risk Management Department
Phone No.	1-800-268-4238
Date of Preparation	January 23, 2018
Date of Last Revision	February 25, 2019
Revision Indicators	The following SDS content was changed on March 08, 2019: SECTION 11. TOXICOLOGICAL INFORMATION; LC50/LD50 values.
References	CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA (“BIOVIA”). Available from Canadian Centre for Occupational Health and Safety (CCOHS).
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