

Cationic Medium Setting Emulsion

SECTION 1. IDENTIFICATION

Product Identifier	Cationic Medium Setting Emulsion
Other Means of Identification	(i) CMS -2 (MOD), (S) (H) (P); (ii) CMS-4 (P/S); (iii) ECM-65, CHP-2M (P)+
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
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; Skin irritation - Category 3; Eye irritation - Category 2B; Carcinogenicity - Category 2

Label Elements



Warning

Harmful if swallowed, in contact with skin or if inhaled.
IF exposed or concerned: Get medical advice/attention.

Other Hazards

Dark Black-Brown oily liquid with a characteristic asphaltic odour or "rotten egg" odour if H₂S is present, but odour is an unreliable warning since it may deaden the sense of smell. Presents little or no hazard if accidentally released. Can ignite if strongly heated.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Asphalt (Bitumen) fume	8052-42-4	55-75		
Water	7732-18-5	25-45		
Stoddard solvent	8052-41-3	0-8		
Styrene-butadiene copolymers	9003-55-8	0-3		
FUEL OIL NO. 2	68476-30-2	0-3		
Emulsifier	61790-85-0, 111-46-6,	0.3-0.8		

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Notes

NOTE: During storage or transit of hot asphalt, hydrogen sulphide may be generated. Antistripping additive added in quantities < 1% when indicated. Heated product may evolve vapours irritating to the nose, throat and lungs. See section 8 for further information.

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SECTION 4. FIRST-AID MEASURES**First-aid Measures****Inhalation**

If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin Contact

For hot asphalt splash, cool affected body part with water immersion or shower. Do not attempt removal of asphalt but split longitudinally if circumferential to avoid tourniquet effect. No attempt should be made to remove firmly adhering bitumen 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

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Get medical attention immediately.

Ingestion

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious 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.

If swallowed: symptoms may include nausea, vomiting, stomach cramps and diarrhea.

If on skin: repeated or prolonged exposure can irritate or burn the skin.

If in eyes: may cause moderate to severe irritation. Symptoms include sore, red eyes, and tearing.

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**

Large fire: Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

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

Flammability of the product: Will burn on prolonged exposure to flame or high temperature.

Hydrogen sulphide may be released if the product is overheated and may accumulate in the tank headspace or any other confined space.

Carbon oxides (CO, CO₂), smoke and irritating vapours as products of incomplete combustion.

Special Protective Equipment and Precautions for Fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece.

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn. See Skin Protection in Section 8 (Exposure Controls/Personal Protection) for advice on suitable chemical protective materials.

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 ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental Precautions

Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and Materials for Containment and Cleaning Up

Note: see section 1 for emergency contact information.

Other Information

Contact supplier, local fire and emergency services for help. Report spills to local health, safety and environmental authorities, as required.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

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. Wash hands thoroughly after handling this product and before eating, using the washroom or leaving work area. Properly dispose of any contaminated items, including shoes, that cannot be decontaminated. DO NOT re-use. See Section 13 (Disposal Considerations) of this safety data sheet.

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 unlabelled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

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

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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.

Individual Protection Measures

Eye/Face Protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin Protection

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. 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. Ensure that eyewash stations and safety showers are close to the workstation location.

Chemical-resistant, imperious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Suitable materials are: nitrile rubber.

Respiratory Protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard 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. 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 oily liquid. Particle Size: Not available
Odour	Characteristic asphaltic odour or "rotten egg" odour if H ₂ S present, but odour is an unreliable warning, since it may deaden the sense of smell. (Asphalt (Bitumen))
Odour Threshold	Not available
pH	2 - 4
Melting Point/Freezing Point	Not available (melting); Not available (freezing)
Initial Boiling Point/Range	100 °C (212 °F)
Flash Point	> 100 °C (212 °F) (open cup)
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Density (air = 1)	Not available
Relative Density (water = 1)	1.017
Solubility	Insoluble in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available (kinematic)
Other Information	
Physical State	Liquid
Surface Tension	Not available

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Electrical Conductivity	Not available
Vapour Pressure at 50 deg C	Not available
Saturated Vapour Concentration	Not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Stable under normal storage conditions.

Possibility of Hazardous Reactions

Contact between heated Asphalt and water can cause a violent eruption. May release COx, NOx, SOx, POx, H2S, hydrocarbons, smoke and irritating vapours when heated to decomposition.

Conditions to Avoid

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

Incompatible Materials

Reactive with oxidising agents acids. Bases. Oxidizers.
Not corrosive to metals.

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

See toxicological information (Section 11).

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Asphalt (Bitumen) fume		> 5000 mg/kg (rat)	> 2000 mg/kg (rabbit)
FUEL OIL NO. 2		~ 12000 mg/kg (rat)	
Stoddard solvent		~ 12000 mg/kg (rat)	
Emulsifier		> 500 mg/kg (rat)	

Skin Corrosion/Irritation

Irritating 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.
Slightly irritating to the skin. Contact with hot material can cause thermal burns.

Serious Eye Damage/Irritation

Irritating to eyes. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision. Hot liquid product may cause serious thermal burns on direct contact. Hydrogen sulphide may cause eye irritation at 1 - 20 ppm and acute conjunctivitis at higher concentrations. Above 50 ppm H2S, eye irritation may include symptoms of redness, sever swelling, tearing, sensitivity to light and the appearance of 'Halos' around lights.
Hot liquid product may cause thermal burns. Slightly irritating to the eyes.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May be harmful based on information for closely related materials.

Yes, caution in confined spaces.

No known significant effects or critical hazards. 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, unconciosness and in cases of severe overexposure; coma and death. At higher concentrations (above 10 ppm), hydrgen 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.

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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

May be harmful based on information for closely related materials.

Skin to darken.

Ingestion

Harmful based on information for closely related materials.

Severe irritation or burns to the mouth, throat and stomach.

Harmful. 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

Harmful based on studies in people and animals.

effects similar to STOT (Specific Target Organ Toxicity) - Single Exposure, as described above.

No known significant effects or critical hazards.

Respiratory and/or Skin Sensitization

Not a respiratory sensitizer.

Carcinogenicity

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

The International Agency for Research on Cancer (IARC) has determined that occupational exposures to oxide asphalt and 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).

Key to Abbreviations

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. ACGIH® = American Conference of Governmental Industrial Hygienists. A4 = Not classifiable as a human carcinogen.

Reproductive Toxicity

Development of Offspring

No information was located.

No known significant effects or critical hazards.

Sexual Function and Fertility

No information was located.

No known significant effects or critical hazards.

Effects on or via Lactation

Not known to cause effects on or via lactation.

Germ Cell Mutagenicity

No information was located.

No known significant effects or critical hazards.

Interactive Effects

No information was located.

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SECTION 12. ECOLOGICAL INFORMATION

Environmental information was not located.

Ecotoxicity

Marine Pollutant.

Persistence and Degradability

Not available.

Bioaccumulative Potential

(Asphalt (Bitumen)) 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. Dispose of or recycle empty containers through an approved waste management facility.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations. Not regulated under US DOT Regulations.

Environmental Hazards Potential Marine Pollutant

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)

The components of this product are in compliance with the chemical notification requirements of the NSN Regulation under CEPA, 1999. All ingredients are listed on the DSL/NDSL.

USA

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

All ingredients are listed on the TSCA Inventory. The components of this product are in compliance with the chemical notification requirements of TSCA.

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

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Key to Abbreviations ACGIH® = American Conference of Governmental Industrial Hygienists
AIHA® = AIHA® Guideline Foundation HSDB® = Hazardous Substances Data Bank

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IARC = International Agency for Research on Cancer
NFPA = National Fire Protection Association NIOSH = National Institute for Occupational Safety and Health

NTP = National Toxicology Program

OSHA = US Occupational Safety and Health Administration

RTECS® = Registry of Toxic Effects of Chemical Substances

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).

Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA ("BIOVIA"). 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).

NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS).

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Disclaimer

To the best of our knowledge, the information herein is accurate. However, neither the above-named supplier, 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.

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