

## Cationic Quick Setting Emulsion

### SECTION 1. IDENTIFICATION

<b>Product Identifier</b>	Cationic Quick Setting Emulsion
<b>Other Means of Identification</b>	(i) CQS; (ii) CQS-1 (H) (P); (iii) MacLink Q; (iv) Metromat Emulsion
<b>Recommended Use</b>	Slurry Seal, Micro Surfacing.
<b>Restrictions on Use</b>	None known.
<b>Manufacturer/Supplier Identifier</b>	McAsphalt Industries Ltd, 8800 Sheppard Ave East, Toronto, Ontario, M1B 5R4
<b>Emergency Phone No.</b>	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 H<sub>2</sub>S 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		
Styrene-butadiene copolymers	9003-55-8	0-5		
FUEL OIL NO. 2	68476-30-2	0-3		
Emulsifier	61790-85-0, 111-46-6, 61791-44-4,	0.5-4		

## 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

If swallowed:

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

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, CO<sub>2</sub>), smoke and irritating vapours as products of incomplete combustion.

### Special Protective Equipment and Precautions for Firefighters

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

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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
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.

### 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

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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.

#### **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**

<b>Appearance</b>	Dark black - brown oily liquid. Particle Size: Not available
<b>Odour</b>	Characteristic asphaltic odour or "rotten egg" odour if H <sub>2</sub> S present, but odour is an unreliable warning, since it may deaden the sense of smell. (Asphalt (Bitumen) )
<b>Odour Threshold</b>	Not available
<b>pH</b>	1 - 3
<b>Melting Point/Freezing Point</b>	Not available (melting); Not available (freezing)
<b>Initial Boiling Point/Range</b>	~ 100 °C (212 °F) (estimated)
<b>Flash Point</b>	> 100 °C (212 °F) (open cup)
<b>Evaporation Rate</b>	Not available
<b>Flammability (solid, gas)</b>	Not applicable
<b>Upper/Lower Flammability or Explosive Limit</b>	Not available (upper); Not available (lower)
<b>Vapour Pressure</b>	Not available
<b>Vapour Density (air = 1)</b>	Not available
<b>Relative Density (water = 1)</b>	~ 1.017
<b>Solubility</b>	Insoluble in water; Not available (in other liquids)
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	Not available
<b>Viscosity</b>	Not available (kinematic)
<b>Other Information</b>	
<b>Physical State</b>	Liquid
<b>Surface Tension</b>	Not available
<b>Electrical Conductivity</b>	Not available
<b>Vapour Pressure at 50 deg C</b>	Not available
<b>Saturated Vapour Concentration</b>	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**

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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

No known significant effects or critical hazards. See toxicological information (Section 11).

#### Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Asphalt (Bitumen) fume	> 2180 mg/kg (rat) (4-hour exposure)	> 5000 mg/kg (rat)	2000 mg/kg
FUEL OIL NO. 2		~ 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. 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.

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## STOT (Specific Target Organ Toxicity) - Repeated Exposure

Harmful based on studies in people and animals.

Prolonged or repeated contact may dry skin and cause irritation. Exposure to Naphtha may damage the blood-forming organs resulting in fatigue and anemia (RBC), decreased resistance to infection, and/or excessive bruising and bleeding (platelet effect). Peripheral nerve damage may be evidenced by impairment of motor function (incoordination, unsteady walk, or muscle weakness in the extremities, and/or loss of sensation in the arms and legs). Auditory system effects may include temporary hearing loss and/or ringing in the ears. This product contains small quantities of Polycyclic aromatic hydrocarbons. Prolonged contact with these compounds has been associated with the induction of skin and lung tumours, 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 and mucous membrane irritation; damage to cardiovascular system.

No known significant effects or critical hazards.

### Respiratory and/or Skin Sensitization

Not a respiratory sensitizer.

### Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
FUEL OIL NO. 2	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.

## SECTION 12. ECOLOGICAL INFORMATION

No known significant effects or critical hazards.

### Ecotoxicity

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Studies were not located.

#### **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**

The generation of waste should be avoided or minimized where ever possible. Significant quantities of waste product residue should not be disposed of via the foul sewer but processed in a suitable effluent treatment plan. Dispose of surplus and non-recyclable and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to Section 7: HANDLING AND STORAGE and sections \*: EXPOSURE CONTROL/PERSONAL PROTECTION for additional handling information and protection of employees. The generation of waste should be avoided or minimized where ever possible. Significant quantities of waste product residue should not be disposed of via the foul sewer but processed in a suitable effluent treatment plan. Dispose of surplus and non-recyclable and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

### **SECTION 14. TRANSPORT INFORMATION**

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

**Environmental Hazards** Potential Marine Pollutant (FUEL OIL NO. 2)

**Special Precautions** Please note: For US Shipments Only: ELEVATED TEMPERATURE LIQUID, N.O.S., at or above 100 c and below its flash point, 9, UN3257, PGIII PG\* : Packing group

**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 componets 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.

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## SECTION 16. OTHER INFORMATION

<b>NFPA Rating</b>	<b>Health - Not assigned. Flammability - 1      Instability - 0</b>
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<b>Phone No.</b>	1-800-268-4238
<b>Date of Preparation</b>	January 24, 2018
<b>Date of Last Revision</b>	January 24, 2018
<b>Key to Abbreviations</b>	ACGIH® = American Conference of Governmental Industrial Hygienists AIHA® = AIHA® Guideline Foundation HSDB® = Hazardous Substances Data Bank 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
<b>References</b>	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).

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