







### 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, impermeous gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. 1itrile rubber RUOeatherJloves.

### 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 vapor 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. PK\VLFDODQGFKHPLFDOSURSHUWLHV

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### Basic Physical and Chemical Properties

<b>Appearance</b>	Dark black - brown oily liquid. Particle Size: Not available
<b>Odor</b>	Characteristic asphaltic odor or "rotten egg" odor if H <sub>2</sub> S present, but odor is an unreliable warning, since it may deaden the sense of smell. (AsphaltBitumen)
<b>Odor Threshold</b>	Not available
<b>pH</b>	9 - 13 (estimated)
<b>Melting Point/Freezing Point</b>	Not available (melting); Not available (freezing)
<b>Initial Boiling Point/Range</b>	100 °C (212 °F)
<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>Vapor Pressure</b>	Not available
<b>Vapor Density (air = 1)</b>	Not available
<b>Relative Density (water = 1)</b>	0.95 - 1.02
<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>Vapor Pressure at 50 deg C</b>	Not available
<b>Saturated Vapor Concentration</b>	Not available

## SECTION 10. Stability and reactivity

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### 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 CO<sub>x</sub>, NO<sub>x</sub>, SO<sub>x</sub>, PO<sub>x</sub>, H<sub>2</sub>S, 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 CO<sub>x</sub>, NO<sub>x</sub>, SO<sub>x</sub>, PO<sub>x</sub>, H<sub>2</sub>S, hydrocarbons, smoke and irritating vapours when heated to decomposition.

## SECTION 11. Toxicological information

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### 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)	
Fatty acids, tall oil		2500 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 H<sub>2</sub>S, 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.

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 overexposure; 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.

#### 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**

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

Effect(s) from long-term exposure are similar to effects described for short-term exposure.

**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	
Fatty acids, tall oil	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**

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No known significant effects or critical hazards.

**Ecotoxicity**

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**

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#### **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. Transportation information**

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

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

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

Not applicable

### **SECTION 15. Regulatory information**

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#### **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.

### **SECTION 16. Other information**

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**NFPA Rating**                      **Health - 1**      **Flammability - 0**      **Instability - 0**

**SDS Prepared By** EPC & Risk Management Department  
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**Key to Abbreviations** 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

**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).

**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.