



# MATERIAL SAFETY DATA SHEET

## 1. Product and Company Identification

**Product name** Crude Oil Tank Bottoms  
**Synonym(s)** Petroleum gas oil, Rock oil  
**CAS #** Mixture  
**Product use** Refinery waste stream  
**Manufacturer** Irving Oil Refining G.P.  
Box 1260  
Saint John, NB E2L 4H6 CA  
Phone: (506) 202-2000  
Refinery: (506) 202-3000  
Emergency Phone: 1-800-424-9300 (CHEMTREC)

## 2. Hazards Identification

**Emergency overview** WARNING  
COMBUSTIBLE LIQUID AND VAPOR.  
CONTAINS MATERIAL WHICH MAY CAUSE CANCER. Contains potential teratogens.  
CAUSES SKIN IRRITATION. CAUSES EYE IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION.

### Potential short term health effects

**Routes of exposure** Eye, Skin contact, Skin absorption, Inhalation, Ingestion.  
**Eyes** Hydrogen sulfide is very toxic. At concentrations as low as 1 to 5 ppm, nausea and severe eye irritation may occur.  
**Skin** Causes irritation.  
May be absorbed through the skin.

### US ACGIH Threshold Limit Values: Skin designation

Benzene (CAS 71-43-2) Can be absorbed through the skin.  
Naphthalene, 1-methyl- (CAS 90-12-0) Can be absorbed through the skin.  
Naphthalene, 2-methyl- (CAS 91-57-6) Can be absorbed through the skin.

**Inhalation** Sense of smell may be impaired at concentrations of hydrogen sulphide at approximately 20 ppm, with headache and respiratory tract lung irritation. At 250 to 500ppm, potentially fatal pulmonary edema may occur. Dizziness, sudden (often fatal) collapse, unconsciousness and death occur at higher concentrations. Pulmonary edema may be delayed as long as 48 hours after exposure.

**Ingestion** Harmful if swallowed. May cause stomach distress, nausea or vomiting. Aspiration of material into lungs can cause chemical pneumonitis. Ingestion of high levels may produce kidney damage.

**Target organs** Blood. Eyes. Kidney. Liver. Respiratory system. Skin.

**Chronic effects** Prolonged or repeated exposure can cause drying, defatting and dermatitis.

**Signs and symptoms** Symptoms may include redness, edema, drying, defatting and cracking of the skin.  
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

**OSHA regulatory status** This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Potential environmental effects** See section 12.

## 3. Composition/Information on Ingredients

Components	CAS #	Percent
Petroleum	8002-05-9	60 - 100
Iron	7439-89-6	0.5 - 1.5
Naphthalene, 1-methyl-	90-12-0	0.1 - 1
Naphthalene, 2-methyl-	91-57-6	0.1 - 1
Xylene	1330-20-7	0.1 - 1
Hydrogen Sulfide	7783-06-4	<1

Components	CAS #	Percent
Sulfur	7704-34-9	<1
Benzene	71-43-2	<0.1
Ethylbenzene	100-41-4	<0.1
Toluene	108-88-3	<0.1

**Composition comments** \*Crude oil is a complex mixture of hydrocarbons. Its exact composition depends on the source of the crude oil from which it was produced and the refining methods used. Crude oil contains hundreds of individual organic chemicals. This section identifies only some of the well-known chemical constituents.

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#### 4. First Aid Measures

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**First aid procedures**

**Eye contact** If irritation occurs, flush eyes with lukewarm, gently flowing fresh water for at least 10 minutes.

**Skin contact** Quickly and gently blot away excess chemical. Gently remove contaminated clothing and shoes. Wash gently and thoroughly with water and non-abrasive soap. Obtain medical attention.

**Inhalation** If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.

**Ingestion** Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention immediately.

**Notes to physician** Treat patient symptomatically.

**General advice** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance. Keep away from sources of ignition. No smoking. Avoid contact with eyes and skin. Wear nitrile rubber, Viton™, Polyethylene, Tychem™ BR/LV or Tychem™ TK gloves and face shield or chemical goggles. Keep out of reach of children.

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#### 5. Fire Fighting Measures

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**Flammable properties** Combustible by WHMIS/OSHA criteria.

**Extinguishing media**

**Suitable extinguishing media** Carbon dioxide. Dry chemical. Foam.

**Unsuitable extinguishing media** Not available

**Protection of firefighters**

**Specific hazards arising from the chemical** Container may explode in heat of fire. Vapors are heavier than air and may travel along the ground to some distant source of ignition and flash back. Cool containers with flooding quantities of water until well after fire is out.

**Protective equipment and precautions for firefighters** Firefighters should wear full protective clothing including self contained breathing apparatus. Cool containers with flooding quantities of water until well after fire is out.

**Hazardous combustion products** May include and are not limited to: Oxides of nitrogen. Oxides of sulfur. Aromatic hydrocarbons. Hydrogen sulfide.

**Explosion data**

**Sensitivity to mechanical impact** Not expected to be sensitive to mechanical impact.

**Sensitivity to static discharge** Vapor: Yes.

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## 6. Accidental Release Measures

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<b>Personal precautions</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
<b>Environmental precautions</b>	Do not discharge into lakes, streams, ponds or public waters.
<b>Methods for containment</b>	Stop leak if you can do so without risk. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Prevent entry into waterways, sewers, basements or confined areas.
<b>Methods for cleaning up</b>	Remove sources of ignition. Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills to original containers for re-use.

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## 7. Handling and Storage

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<b>Handling</b>	Use good industrial hygiene practices in handling this material. Avoid heating open containers of product so as to minimize vapour production and accumulation. Non-sparking equipment. Explosion-proof ventilation. Intrinsically safe electrical equipment. Ground and bond containers when transferring material. Have water available for flushing. When using do not eat or drink. Use only with adequate ventilation. Wash thoroughly after handling. Avoid breathing vapors or mists of this product. Avoid contact with eyes, skin and clothing.
<b>Storage</b>	Store in a closed container away from incompatible materials. Containers should be vented and equipped with a flame arrester. Store in a cool, dry, well-ventilated place. Keep away from heat, open flames or other sources of ignition. Keep out of reach of children. Do not store at temperatures above 120°F (49°C).  Shipping: Stable during transport. May be transported hot.

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## 8. Exposure Controls/Personal Protection

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### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Benzene (CAS 71-43-2)	STEL	2.5 ppm
	TWA	0.5 ppm
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
	STEL	5 ppm
Hydrogen Sulfide (CAS 7783-06-4)	TWA	1 ppm
	TWA	0.5 ppm
Naphthalene, 1-methyl- (CAS 90-12-0)	TWA	0.5 ppm
	TWA	0.5 ppm
Toluene (CAS 108-88-3)	TWA	20 ppm
Xylene (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

#### US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Benzene (CAS 71-43-2)	STEL	5 ppm
	TWA	1 ppm

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3
		100 ppm
Xylene (CAS 1330-20-7)	PEL	435 mg/m3

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
		100 ppm
<b>US. OSHA Table Z-2 (29 CFR 1910.1000)</b>		
Components	Type	Value
Benzene (CAS 71-43-2)	Ceiling	25 ppm
	TWA	10 ppm
Hydrogen Sulfide (CAS 7783-06-4)	Ceiling	20 ppm
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

<b>Exposure limits</b>	See above
<b>Engineering controls</b>	Enclose processes. Use local exhaust ventilation to remove vapor at its site of generation. Handle laboratory samples in a fume hood. Use mechanical ventilation in confined spaces.
<b>Personal protective equipment</b>	
<b>Eye / face protection</b>	Face shield or chemical goggles.
<b>Hand protection</b>	Nitrile rubber Viton™. Polyethylene. Tychem™ BR/LV. Tychem™ TK.
<b>Skin and body protection</b>	As required by employer code. Coveralls to prevent skin contact. If clothing or footwear becomes contaminated with the product, remove it and completely decontaminate it before re-use, or discard it.
<b>Respiratory protection</b>	Do not attempt rescue of an hydrogen sulfide knockdown victim without the use of proper respiratory protective equipment. For confined spaces, wear a NIOSH-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2). Where exposure guideline levels may be exceeded, use an approved NIOSH respirator.
<b>General hygiene considerations</b>	Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink.

**9. Physical and Chemical Properties**

<b>Appearance</b>	Slurry
<b>Color</b>	Dark brown
<b>Form</b>	Oily slurry
<b>Odor</b>	Rotten egg odor if H2S present. Note: H2S deadens the sense of smell. Absence of rotten eggs smell does not mean absence of H2S.
<b>Odor threshold</b>	0.55 mg/m3 for sulphur free product, <0.15 ppm for H2S
<b>Physical state</b>	Liquid.
<b>pH</b>	8.3
<b>Freezing point</b>	-99.4 °F (-73 °C)
<b>Boiling point</b>	86 - 460.4 °F (30 - 238 °C)
<b>Pour point</b>	Not available.
<b>Evaporation rate</b>	Not available
<b>Flash point</b>	113.0 °F (45.0 °C) Closed Cup
<b>Auto-ignition temperature</b>	Not available.
<b>Flammability limits in air, upper, % by volume</b>	< 5.9 %
<b>Flammability limits in air, lower, % by volume</b>	> 1.1 %
<b>Vapor pressure</b>	40 mmHg
<b>Vapor density</b>	4.7 - 5 (Air=1)
<b>Specific gravity</b>	0.8 - 0.9

<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Solubility (water)</b>	Insoluble
<b>Relative density</b>	Not available.
<b>Viscosity</b>	Thick
<b>VOC</b>	Not available
<b>Percent volatile</b>	Not available

## 10. Stability and Reactivity

<b>Reactivity</b>	This product may react with oxidizing agents.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Conditions to avoid</b>	Avoid high temperatures. Do not mix with other chemicals. Heat, open flames, static discharge, sparks and other ignition sources.
<b>Incompatible materials</b>	Acids. Oxidizers.
<b>Hazardous decomposition products</b>	May include and are not limited to: Oxides of nitrogen. Hydrogen sulphide. Oxides of sulfur. Aromatic hydrocarbons.

## 11. Toxicological Information

### Toxicological data

Components	Species	Test Results
Benzene (CAS 71-43-2)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Guinea pig	> 9400 mg/kg
	Rabbit	8260 mg/kg
<i>Inhalation</i>		
LC50	Mouse 998	0 mg/l
	Rat	13700 mg/l/4h
		10000 mg/l, 7 Hours
<i>Oral</i>		
LD50	Mouse 470	0 mg/kg
	Rat	690 mg/kg
Ethylbenzene (CAS 100-41-4)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	15380 mg/kg
<i>Inhalation</i>		
LC50	Rat	4000 ppm, 4 Hours
<i>Oral</i>		
LD50	Rat	5460 mg/kg
		3500 mg/kg
Hydrogen Sulfide (CAS 7783-06-4)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Monkey	0.7 mg/l, 35 Minutes
	Mouse	1.5 mg/l, 18 Minutes
		0.4 mg/l, 410 Minutes
		0.1 mg/l, 804 Minutes
	Rat	> 0.4 mg/l, 960 Minutes

Components	Species	Test Results
		1.5 mg/l, 14 Minutes
		1 mg/l/4h
<b>LD50</b> Not available.		
Iron (CAS 7439-89-6)		
<b>Acute</b> <i>Oral</i> LD50	Rat	984 mg/kg
<b>LC50</b> Not available.		
Naphthalene, 1-methyl- (CAS 90-12-0)		
<b>Acute</b> <i>Oral</i> LD50	Rat	1840 mg/kg
<b>LC50</b> Not available.		
Naphthalene, 2-methyl- (CAS 91-57-6)		
<b>Acute</b> <i>Oral</i> LD50	Rat	1630 mg/kg
<b>LC50</b> Not available.		
Petroleum (CAS 8002-05-9)		
<b>Acute</b> <i>Dermal</i> LD50	Rabbit	>= 2000 mg/kg
<i>Inhalation</i> LC50	Rat	10000 mg/l/4h
<i>Oral</i> LD50	Rat	>= 4300 mg/kg
Sulfur (CAS 7704-34-9)		
<b>Acute</b> <i>Dermal</i> LD50	Rabbit	>= 2000 mg/kg
<i>Inhalation</i> LC50	Rat	>= 6.2 mg/l/4h
<i>Oral</i> LD50	Human	> 5000 mg/kg
	Rat	>= 3000 mg/kg
Toluene (CAS 108-88-3)		
<b>Acute</b> <i>Dermal</i> LD50	Rabbit	12125 mg/kg
		8390 mg/kg
		14.1 ml/kg
<i>Inhalation</i> LC50	Mouse	7100 mg/l, 4 Hours

Components	Species	Test Results
		5320 mg/l, 8 Hours
		400 mg/l, 24 Hours
	Rat	26700 mg/l, 1 Hours
		12200 mg/l, 2 Hours
		8000 mg/l, 4 Hours
		12.5 mg/l/4h
Oral LD50	Rat	636 mg/kg
Xylene (CAS 1330-20-7)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	1700 mg/kg
<i>Inhalation</i>		
LC50	Mouse	3907 mg/l, 6 Hours
	Rat	6350 mg/l, 4 Hours
<i>Oral</i>		
LD50	Mouse 525	1 mL/kg
		1590 mg/kg
	Rat	3523 - 8600 mg/kg

#### Effects of acute exposure

**Eye contact** Hydrogen sulfide is very toxic. At concentrations as low as 1 to 5 ppm, nausea and severe eye irritation may occur.

**Skin contact** Causes irritation.  
May be absorbed through the skin.

#### US ACGIH Threshold Limit Values: Skin designation

Benzene (CAS 71-43-2)	Can be absorbed through the skin.
Naphthalene, 1-methyl- (CAS 90-12-0)	Can be absorbed through the skin.
Naphthalene, 2-methyl- (CAS 91-57-6)	Can be absorbed through the skin.

**Inhalation** Sense of smell may be impaired at concentrations of hydrogen sulphide at approximately 20 ppm, with headache and respiratory tract lung irritation. At 250 to 500ppm, potentially fatal pulmonary edema may occur. Dizziness, sudden (often fatal) collapse, unconsciousness and death occur at higher concentrations. Pulmonary edema may be delayed as long as 48 hours after exposure.

**Ingestion** Harmful if swallowed. May cause stomach distress, nausea or vomiting. Aspiration of material into lungs can cause chemical pneumonitis. Ingestion of high levels may produce kidney damage.

**Sensitization** Non-hazardous by WHMIS/OSHA criteria.

**Chronic effects** Blood and nervous system disorders may occur after prolonged skin contact.

**Carcinogenicity** Benzene and certain polycyclic aromatic hydrocarbons (PAHs) are known carcinogens. Exposure of rats and mice to benzene by inhalation or ingestion routes has caused cancer of the lymph system (lymphoma), the blood (leukemia), and the bone marrow (myeloma). It has also caused tumours of the liver, zymbal gland, mammary gland, lungs, thymus, nasal and oral cavities.

#### ACGIH Carcinogens

Benzene (CAS 71-43-2)	A1 Confirmed human carcinogen.
Ethylbenzene (CAS 100-41-4)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Naphthalene, 1-methyl- (CAS 90-12-0)	A4 Not classifiable as a human carcinogen.
Naphthalene, 2-methyl- (CAS 91-57-6)	A4 Not classifiable as a human carcinogen.
Toluene (CAS 108-88-3)	A4 Not classifiable as a human carcinogen.
Xylene (CAS 1330-20-7)	A4 Not classifiable as a human carcinogen.

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Benzene (CAS 71-43-2)	Volume 29, Supplement 7, Volume 100F 1 Carcinogenic to humans.
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Ethylbenzene (CAS 100-41-4)  
 Petroleum (CAS 8002-05-9)  
 Toluene (CAS 108-88-3)

Volume 77 - 2B Possibly carcinogenic to humans.  
 Volume 45 - 3 Not classifiable as to carcinogenicity to humans.  
 Volume 47, Volume 71 - 3 Not classifiable as to carcinogenicity to humans.  
 Volume 47, Volume 71 - 3 Not classifiable as to carcinogenicity to humans.

Xylene (CAS 1330-20-7)

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Benzene (CAS 71-43-2)  
 Ethylbenzene (CAS 100-41-4)

Carcinogenic.  
 Carcinogenic.

**US NTP Report on Carcinogens: Known carcinogen**

Benzene (CAS 71-43-2)

Known To Be Human Carcinogen.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Benzene (CAS 71-43-2)

Cancer hazard.

**Mutagenicity**

The mutagenicity of benzene has been extensively studied in rats and mice using inhalation and oral exposure techniques. Positive results have been obtained for many tests including and not limited to chromosome aberrations, micronuclei, sister chromatid exchanges, point mutations, DNA adducts, DNA repair, DNA damage, aneuploidy and sperm head abnormalities.

**Reproductive effects**

Non-hazardous by WHMIS/OSHA criteria.

**Teratogenicity**

Xylene is considered fetotoxic in humans, based on observations of reduced fetal weight, delayed ossification and persistent behavioural effects in animal studies in the absence of maternal toxicity.

Toluene (benzene, methyl-) has caused fetotoxicity (reduced fetal weight), behavioural effects (effects on learning and memory) and hearing loss (in males). These effects have been observed in the offspring of rats exposed by inhalation to 1200 or 1800 ppm toluene. These effects were observed in the absence of maternal toxicity.

**Name of Toxicologically Synergistic Products**

Other petroleum hydrocarbons and other chemicals that cause CNS depression or other neurological effects can be expected to produce additive or synergistic effects.

**12. Ecological Information**

**Ecotoxicity**

Components of this product have been identified as having potential environmental concerns.

**Ecotoxicological data**

**Components**

Benzene (CAS 71-43-2)

		<b>Species</b>	<b>Test Results</b>
Algae	IC50	Algae	29 mg/L, 72 Hours
Crustacea	EC50	Daphnia	12.18 mg/L, 48 Hours

**Aquatic**

Crustacea	EC50	Water flea (Daphnia magna)	8.76 - 15.6 mg/l, 48 hours
Fish	LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss)	7.2 - 11.7 mg/l, 96 hours

Ethylbenzene (CAS 100-41-4)

Algae	IC50	Algae	4.6 mg/L, 72 Hours
Crustacea	EC50	Daphnia	2.1 mg/L, 48 Hours

**Aquatic**

Crustacea	EC50	Water flea (Daphnia magna)	1.37 - 4.4 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	7.5 - 11 mg/l, 96 hours

Hydrogen Sulfide (CAS 7783-06-4)

**Aquatic**

Fish	LC50	Bluegill (Lepomis macrochirus)	0.009 mg/l, 96 hours
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Iron (CAS 7439-89-6)

**Aquatic**

Fish	LC50	Channel catfish (Ictalurus punctatus)	> 500 mg/l, 96 hours
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Naphthalene, 1-methyl- (CAS 90-12-0)

**Aquatic**

Fish	LC50	Fathead minnow (Pimephales promelas)	9 mg/l, 96 hours
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Components		Species	Test Results
Naphthalene, 2-methyl- (CAS 91-57-6)			
<b>Aquatic</b>			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	1.07 - 1.841 mg/l, 96 hours
Petroleum (CAS 8002-05-9)			
Crustacea	EC50	Daphnia	36 mg/L, 48 Hours
<b>Aquatic</b>			
Fish	LC50	Cutthroat trout (Oncorhynchus clarki)	2.1 - 4.3 mg/l, 96 hours
Sulfur (CAS 7704-34-9)			
<b>Aquatic</b>			
Fish	LC50	Western mosquitofish (Gambusia affinis)	> 10000 mg/l, 96 hours
Toluene (CAS 108-88-3)			
Algae	IC50	Algae	433 mg/L, 72 Hours
Crustacea	EC50	Daphnia	7.645 mg/L, 48 Hours
<b>Aquatic</b>			
Crustacea	EC50	Water flea (Daphnia magna)	5.46 - 9.83 mg/l, 48 hours
Fish	LC50	Coho salmon,silver salmon (Oncorhynchus kisutch)	8.11 mg/l, 96 hours
Xylene (CAS 1330-20-7)			
<b>Aquatic</b>			
Fish	LC50	Bluegill (Lepomis macrochirus)	7.711 - 9.591 mg/l, 96 hours
<b>Persistence and degradability</b>	Non-persistent/ Group 1		
<b>Bioaccumulation / Accumulation</b>	Not available		
<b>Mobility in environmental media</b>	Not available.		
<b>Environmental effects</b>	Not available.		
<b>Aquatic toxicity</b>	Not available.		
<b>Partition coefficient</b>			
Benzene		2.13	
Ethylbenzene		3.15	
Naphthalene, 1-methyl-		3.87	
Naphthalene, 2-methyl-		3.86	
Toluene		2.73	
Xylene		3.12 - 3.2	
<b>Chemical fate information</b>	Not available.		

### 13. Disposal Considerations

<b>Disposal instructions</b>	Review federal, provincial, and local government requirements prior to disposal.
<b>Waste from residues / unused products</b>	Not available
<b>Contaminated packaging</b>	Not available

### 14. Transport Information

#### U.S. Department of Transportation (DOT)

##### Basic shipping requirements:

<b>UN number</b>	UN1267
<b>Proper shipping name</b>	Petroleum crude oil
<b>Hazard class</b>	3
<b>Packing group</b>	III
<b>Special provisions</b>	144, 357, B1, IB3, T2, TP1
<b>Packaging exceptions</b>	150

## Transportation of Dangerous Goods (TDG - Canada)

### Basic shipping requirements:

UN number UN1267  
Proper shipping name PETROLEUM CRUDE OIL  
Hazard class 3  
Packing group III

### DOT



### TDG



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## 15. Regulatory Information

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**Canadian federal regulations** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

### Canada CEPA Schedule I: Listed substance

Benzene (CAS 71-43-2)	Listed.
Naphthalene, 2-methyl- (CAS 91-57-6)	Listed.
Petroleum (CAS 8002-05-9)	Listed.

### Canada NPRI VOCs with Additional Reporting Requirements: Mass reporting threshold/Identification Number

Benzene (CAS 71-43-2)	1 tonnes
Toluene (CAS 108-88-3)	1 tonnes
Xylene (CAS 1330-20-7)	1 tonnes

### Canada WHMIS Ingredient Disclosure: Threshold limits

Benzene (CAS 71-43-2)	0.1 %
Ethylbenzene (CAS 100-41-4)	0.1 %
Hydrogen Sulfide (CAS 7783-06-4)	1 %
Naphthalene, 1-methyl- (CAS 90-12-0)	1 %
Naphthalene, 2-methyl- (CAS 91-57-6)	1 %
Toluene (CAS 108-88-3)	1 %

**WHMIS status** Controlled

**WHMIS classification** Class B - Division 3 - Combustible Liquid, Class D - Division 2A, 2B

### WHMIS labeling



### Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 Yes  
hazardous chemical

**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Spill: Reportable quantity**

Hydrogen Sulfide (CAS 7783-06-4) 100 lbs

**US EPCRA (SARA Title III) Section 302 - Extremely Hazardous Substance: Threshold Planning Quantity**

Hydrogen Sulfide (CAS 7783-06-4) 500 lbs

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration**

Benzene (CAS 71-43-2) 0.1 %

Ethylbenzene (CAS 100-41-4) 0.1 %

Hydrogen Sulfide (CAS 7783-06-4) 1.0 %

Petroleum (CAS 8002-05-9) 0.1 % N590 Substance is not eligible for the de minimis exemption except for the purposes of supplier notification requirements.

Toluene (CAS 108-88-3) 1.0 %

Xylene (CAS 1330-20-7) 1.0 %

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Reportable threshold**

Petroleum (CAS 8002-05-9) 100 lbs N590

**US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance**

Benzene (CAS 71-43-2) Listed.

Ethylbenzene (CAS 100-41-4) Listed.

Hydrogen Sulfide (CAS 7783-06-4) Listed.

Petroleum (CAS 8002-05-9) Listed. N590

Toluene (CAS 108-88-3) Listed.

Xylene (CAS 1330-20-7) Listed.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**US CWA Section 311 Hazardous Substances: Listed substance**

Benzene (CAS 71-43-2) Listed.

Ethylbenzene (CAS 100-41-4) Listed.

Hydrogen Sulfide (CAS 7783-06-4) Listed.

Toluene (CAS 108-88-3) Listed.

Xylene (CAS 1330-20-7) Listed.

**US CWA Section 307(a)(1) Toxic Pollutants: Listed substance**

Benzene (CAS 71-43-2) Listed.

Ethylbenzene (CAS 100-41-4) Listed.

Naphthalene, 2-methyl- (CAS 91-57-6) Listed.

Petroleum (CAS 8002-05-9) Listed.

Toluene (CAS 108-88-3) Listed.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Benzene (CAS 71-43-2) Listed.

Ethylbenzene (CAS 100-41-4) Listed.

Hydrogen Sulfide (CAS 7783-06-4) Listed.

Toluene (CAS 108-88-3) Listed.

Xylene (CAS 1330-20-7) Listed.

**US CAA Section 111 Volatile Organic Compounds: Listed substance**

Benzene (CAS 71-43-2) Listed.

Ethylbenzene (CAS 100-41-4) Listed.

Naphthalene, 1-methyl- (CAS 90-12-0) Listed.

Naphthalene, 2-methyl- (CAS 91-57-6) Listed.

Toluene (CAS 108-88-3) Listed.

Xylene (CAS 1330-20-7) Listed.

**US CAA Section 112(i) High-Risk Hazardous Air Pollutants (HAPs): Weight factor**

Benzene (CAS 71-43-2) 10

**US CAA Section 112(i) High-Risk Hazardous Air Pollutants (HAPs): Listed substance**

Benzene (CAS 71-43-2) Listed.

**US CAA Section 112(r) Accidental Release Prevention - Regulated Toxic Substance: Listed substance**

Hydrogen Sulfide (CAS 7783-06-4) Regulated toxic substance.

**US CAA Section 112(r) Accidental Release Prevention: Threshold quantity**

Hydrogen Sulfide (CAS 7783-06-4) 10000 lbs

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Hydrogen Sulfide (CAS 7783-06-4) Listed.

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Benzene (CAS 71-43-2) Listed.

Ethylbenzene (CAS 100-41-4)	Listed.
Naphthalene, 2-methyl- (CAS 91-57-6)	Listed.
Petroleum (CAS 8002-05-9)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (CAS 1330-20-7)	Listed.

**CERCLA (Superfund) reportable quantity**

Petroleum: 100  
 Xylene: 100  
 Hydrogen Sulfide: 100  
 Benzene: 10  
 Ethylbenzene: 1000  
 Toluene: 1000

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories**  
 Immediate Hazard - Yes  
 Delayed Hazard - Yes  
 Fire Hazard - Yes  
 Pressure Hazard - No  
 Reactivity Hazard - No

**State regulations**                      WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

**US - California Hazardous Substances (Director's): Listed substance**

Benzene (CAS 71-43-2)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Hydrogen Sulfide (CAS 7783-06-4)	Listed.
Iron (CAS 7439-89-6)	Listed.
Naphthalene, 2-methyl- (CAS 91-57-6)	Listed.
Petroleum (CAS 8002-05-9)	Listed.
Sulfur (CAS 7704-34-9)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (CAS 1330-20-7)	Listed.

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Benzene (CAS 71-43-2)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Toluene (CAS 108-88-3)	Listed.

**US - Connecticut Carcinogenic Substance Reporting: Listed substance**

Benzene (CAS 71-43-2)	Listed.
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**US - Illinois Chemical Safety Act: Listed substance**

Benzene (CAS 71-43-2)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Hydrogen Sulfide (CAS 7783-06-4)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (CAS 1330-20-7)	Listed.

**US - Louisiana Spill Reporting: Listed substance**

Benzene (CAS 71-43-2)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Hydrogen Sulfide (CAS 7783-06-4)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (CAS 1330-20-7)	Listed.

**US - Michigan Critical Materials Register: Parameter number**

Benzene (CAS 71-43-2)	00071-43-2 Listed.
Toluene (CAS 108-88-3)	00108-88-3 Listed.
Xylene (CAS 1330-20-7)	01330-20-7 Listed.

**US - Minnesota Haz Subs: Listed substance**

Benzene (CAS 71-43-2)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Hydrogen Sulfide (CAS 7783-06-4)	Listed.
Petroleum (CAS 8002-05-9)	Listed.
Toluene (CAS 108-88-3)	Listed.
Xylene (CAS 1330-20-7)	Listed.

**US - New Jersey RTK - Substances: Listed substance**

Benzene (CAS 71-43-2)	Listed.
Ethylbenzene (CAS 100-41-4)	Listed.
Hydrogen Sulfide (CAS 7783-06-4)	Listed.

Naphthalene, 1-methyl- (CAS 90-12-0) Listed.  
 Naphthalene, 2-methyl- (CAS 91-57-6) Listed.  
 Petroleum (CAS 8002-05-9) Listed.  
 Sulfur (CAS 7704-34-9) Listed.  
 Toluene (CAS 108-88-3) Listed.  
 Xylene (CAS 1330-20-7) Listed.

**US - New York Release Reporting: Hazardous Substances: Listed substance**

Benzene (CAS 71-43-2) Listed.  
 Ethylbenzene (CAS 100-41-4) Listed.  
 Hydrogen Sulfide (CAS 7783-06-4) Listed.  
 Toluene (CAS 108-88-3) Listed.  
 Xylene (CAS 1330-20-7) Listed.

**US - North Carolina Toxic Air Pollutants: Listed substance**

Benzene (CAS 71-43-2) Listed.  
 Hydrogen Sulfide (CAS 7783-06-4) Listed.  
 Toluene (CAS 108-88-3) Listed.  
 Xylene (CAS 1330-20-7) Listed.

**US - Pennsylvania RTK - Hazardous Substances: Special hazard**

Benzene (CAS 71-43-2) Special hazard.

**US - Texas Effects Screening Levels: Listed substance**

Benzene (CAS 71-43-2) Listed.  
 Ethylbenzene (CAS 100-41-4) Listed.  
 Hydrogen Sulfide (CAS 7783-06-4) Listed.  
 Iron (CAS 7439-89-6) Listed.  
 Naphthalene, 1-methyl- (CAS 90-12-0) Listed.  
 Naphthalene, 2-methyl- (CAS 91-57-6) Listed.  
 Petroleum (CAS 8002-05-9) Listed.  
 Sulfur (CAS 7704-34-9) Listed.  
 Toluene (CAS 108-88-3) Listed.  
 Xylene (CAS 1330-20-7) Listed.

**US - Washington Chemical of High Concern to Children: Listed substance**

Benzene (CAS 71-43-2) Listed.  
 Ethylbenzene (CAS 100-41-4) Listed.  
 Toluene (CAS 108-88-3) Listed.

**US. Massachusetts RTK - Substance List**

Benzene (CAS 71-43-2) Listed.  
 Ethylbenzene (CAS 100-41-4) Listed.  
 Hydrogen Sulfide (CAS 7783-06-4) Listed.  
 Naphthalene, 1-methyl- (CAS 90-12-0) Listed.  
 Petroleum (CAS 8002-05-9) Listed.  
 Sulfur (CAS 7704-34-9) Listed.  
 Toluene (CAS 108-88-3) Listed.  
 Xylene (CAS 1330-20-7) Listed.

**US. Pennsylvania RTK - Hazardous Substances**

Benzene (CAS 71-43-2) Listed.  
 Ethylbenzene (CAS 100-41-4) Listed.  
 Hydrogen Sulfide (CAS 7783-06-4) Listed.  
 Naphthalene, 1-methyl- (CAS 90-12-0) Listed.  
 Naphthalene, 2-methyl- (CAS 91-57-6) Listed.  
 Petroleum (CAS 8002-05-9) Listed.  
 Sulfur (CAS 7704-34-9) Listed.  
 Toluene (CAS 108-88-3) Listed.  
 Xylene (CAS 1330-20-7) Listed.

**US. Rhode Island RTK**

Benzene (CAS 71-43-2) Listed.  
 Ethylbenzene (CAS 100-41-4) Listed.  
 Hydrogen Sulfide (CAS 7783-06-4) Listed.  
 Toluene (CAS 108-88-3) Listed.  
 Xylene (CAS 1330-20-7) Listed.

**Inventory status**

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes

**Country(s) or region**

Canada

**Inventory name**

Non-Domestic Substances List (NDSL)

**On inventory (yes/no)\***

No

United States &amp; Puerto Rico

Toxic Substances Control Act (TSCA) Inventory

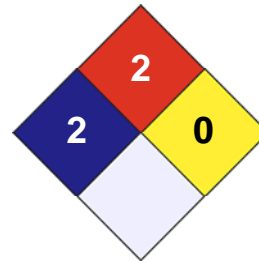
Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**16. Other Information**

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

<b>HEALTH</b>	* 2
<b>FLAMMABILITY</b>	2
<b>PHYSICAL HAZARD</b>	0
<b>PERSONAL PROTECTION</b>	X

**Disclaimer**

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**Issue date**

18-March-2014

**Effective date**

15-March-2014

**Expiry date**

15-March-2017

**Prepared by**

Dell Tech Laboratories, Ltd. Phone: (519) 858-5021

**Other information**

For an updated MSDS, please contact the supplier/manufacturer listed on the first page of the document.

This MSDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.

## Crude Oil Tank Bottoms



Combustible liquid. Eye and skin irritant. May cause chronic toxic effects.

Keep away from sources of ignition. No smoking. Avoid contact with eyes and skin. Wear nitrile rubber, Viton™, Polyethylene, Tychem™ BR/LV or Tychem™ TK gloves and face shield or chemical goggles. Keep out of reach of children.

EYE: If irritation occurs, flush eyes with lukewarm, gently flowing fresh water for at least 10 minutes.

SKIN: Quickly and gently blot away excess chemical. Gently remove contaminated clothing and shoes. Wash gently and thoroughly with water and non-abrasive soap. Obtain medical attention.

INHALATION: If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.

INGESTION: Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious, or is convulsing. Obtain medical attention immediately.

READ MATERIAL SAFETY DATA SHEET BEFORE USING PRODUCT

=====

Liquide combustible. Irritant pour les yeux et la peau. Il peut causer des effets toxiques chroniques.

Conserver à l'écart de toutes sources d'ignition. Ne pas fumer. Éviter le contact avec les yeux et la peau. Porter des gants en caoutchouc nitrile, Viton™, Polyéthylène, Tychem™ BR/LV ou Tychem™ TK et des lunettes de shield ou de produit chimique de visage. Tenir hors de la portée des enfants.

YEUX: En cas d'irritation, rincer les yeux avec de l'eau tiède, laisser couler doucement pendant au moins 10 minutes.

PEAU: Sécher rapidement et doucement l'excès du produit chimique. Enlever les vêtements et les chaussures contaminés. Laver à fond, en frottant doucement avec de l'eau et du savon non abrasif. Appeler un médecin.

INHALATION: En cas de symptômes, placer la victime à l'air frais. Si les symptômes persistent, obtenir de l'attention médicale. Si la victime ne respire pas du personnel qualifié devrait immédiatement commencer la réanimation cardio-pulmonaire.

INGESTION: Ne pas provoquer le vomissement. Si le vomissement se produit spontanément, incliner la victime vers l'avant pour réduire le risque d'inhalation. Ne jamais rien faire boire ou avaler à une victime inconsciente, ou si la victime a des convulsions. Obtenir immédiatement de l'attention médicale.

LIRE LA FICHE SIGNALÉTIQUE AVANT D'UTILISER CE PRODUIT