



Material Safety Data Sheet

MSDS ID NO.: 0110MAR001
Revision date: 02/02/2004

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product name: Marathon Petroleum Crude Oil
Synonyms: Crude Oil
Chemical Family: Petroleum Hydrocarbon
Formula: Complex mixture

Supplier:
Marathon Oil Company
539 SOUTH MAIN STREET
FINDLAY OH 45840

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Petroleum Crude Oil is a complex mixture of paraffinic, cycloparaffinic and aromatic hydrocarbons covering carbon numbers ranging from C1 to C60+. Can contain minor amounts of sulfur, nitrogen and oxygen compounds as well as trace amounts of heavy metals such as nickel, vanadium and lead. Composition varies depending on source of crude.

Product information

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
MAPLLC Petroleum Crude Oil	8002-05-9	100		= 1600 mg/m ³ TWA = 400 ppm TWA	

Component Information

Name	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA - Vacated PELs - Time Weighted Ave	Other:
Petroleum Crude Oil	8002-05-9	98-100		= 1600 mg/m ³ TWA = 400 ppm TWA	
Toluene	108-88-3	0-5	= 50 ppm TWA skin - potential for cutaneous absorption	= 100 ppm TWA = 150 ppm STEL = 375 mg/m ³ TWA = 560 mg/m ³ STEL	
Xylene	1330-20-7	0-5	= 100 ppm TWA = 150 ppm STEL	= 100 ppm TWA = 150 ppm STEL = 435 mg/m ³ TWA = 655 mg/m ³ STEL	
Hydrogen Sulfide	7783-06-4	0-4	= 10 ppm TWA = 15 ppm STEL	= 10 ppm TWA = 14 mg/m ³ TWA = 15 ppm STEL = 21 mg/m ³ STEL	
Normal Hexane	110-54-3	0-3	= 1000 ppm STEL = 50 ppm TWA = 500 ppm TWA skin - potential for cutaneous absorption	= 1000 ppm STEL = 180 mg/m ³ TWA = 1800 mg/m ³ TWA = 3600 mg/m ³ STEL = 50 ppm TWA = 500 ppm TWA	
Sulfur Compounds	Mixture	0-3			
Benzene	71-43-2	0-2	= 0.5 ppm TWA = 2.5 ppm STEL skin - potential for cutaneous absorption	= 10 ppm TWA unless specified in 1910.1028 = 25 ppm Ceiling unless specified in 1910.1028 = 50 ppm STEL 10 min, unless specified in 1910.1028	OSHA Exposure Limit as specified in 1910.1028: = 1.0 ppm TWA = 5 ppm STEL = 0.5 ppm Action Level

Notes:

The manufacturer has voluntarily elected to reflect exposure limits contained in OSHA's 1989 air contaminants standard in its MSDS's, even though certain of those exposure limits were vacated in 1992.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

CRUDE OIL IS AN AMBER TO BLACK IN COLOR DEPENDING ON THE SOURCE. IT POSSESSES A ROTTEN EGG OR SULFUR ODOR. CRUDE OIL IS A VOLATILE AND EXTREMELY FLAMMABLE LIQUID. VAPORS MAY CAUSE FLASH FIRES. KEEP AWAY FROM HEAT, FLAME AND SOURCES OF IGNITION. REPEATED AND LONG TERM SKIN EXPOSURE CONTACT TO COMPONENTS OF THIS PRODUCT HAS CAUSED SYSTEMIC TOXICITY AND CANCER IN LABORATORY ANIMALS. CAN CONTAIN TOXIC LEVELS OF HYDROGEN SULFIDE VAPORS THAT ACCUMULATE IN THE VAPOR SPACES OF STORAGE AND TRANSPORT COMPARTMENTS. H₂S VAPORS CAN CAUSE EYE, SKIN, AND RESPIRATORY TRACT IRRITATION AND ASPHYXIATION. THIS PRODUCT MAY CONTAIN BENZENE. BENZENE MAY CAUSE CANCER OR BE TOXIC TO BLOOD-FORMING ORGANS. IF SWALLOWED, THIS PRODUCT MAY GET SUCKED INTO THE LUNGS (ASPIRATED) AND CAUSE LUNG DAMAGE OR EVEN DEATH.

OSHA WARNING LABEL:

DANGER!
FLAMMABLE LIQUID.
REPEATED AND LONG TERM SKIN EXPOSURE TO COMPONENTS OF THIS PRODUCT HAS CAUSED SYSTEMIC TOXICITY AND CANCER IN LABORATORY ANIMALS.
MAY VENT HARMFUL CONCENTRATIONS OF HYDROGEN SULFIDE (H₂S) GAS WHICH CAN CAUSE RESPIRATORY IRRITATION AND ASPHYXIATION.
CONTAINS BENZENE WHICH MAY CAUSE CANCER OR BE TOXIC TO BLOOD-FORMING ORGANS.
IF SWALLOWED, THE VOLATILE COMPONENTS OF THIS PRODUCT MAY GET SUCKED INTO THE LUNGS (ASPIRATED) AND CAUSE LUNG DAMAGE OR EVEN DEATH.

CONSUMER WARNING LABEL:

A CONSUMER WARNING LABEL IS NOT APPLICABLE FOR THIS PRODUCT.

- Inhalation:** Vapors and fumes can cause respiratory and nasal irritation. Significant concentrations of hydrogen sulfide gas can be present in the vapor space of storage tanks and bulk transport compartments (See Sections 7, 8 & 11).
- Ingestion:** The volatile components of this product may be toxic by ingestion. Aspiration (inadvertent suction) of liquid into the lungs must be avoided as even small quantities in the lungs can produce chemical pneumonitis, pulmonary edema/hemorrhage and even death.
- Skin contact:** Prolonged or repeated liquid contact can cause dermatitis, folliculitis or oil acne.
- Eye contact:** Liquid or vapor contact may result in slight eye irritation.

Carcinogenic Evaluation:

Product information

Name	IARC:	NTP:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
MAPLLC Petroleum Crude Oil 8002-05-9	NE			

- Notes:** The International Agency for Research on Cancer (IARC) has determined that there is limited evidence for the carcinogenicity of crude oil in animals. IARC has determined that there is inadequate evidence for the carcinogenicity of crude oil in humans. Crude oil is not classifiable as to its carcinogenicity to humans (Group 3).

Component Information

Name	IARC:	NTP:	ACGIH - Carcinogens:	OSHA - Select Carcinogens:
Toluene 108-88-3			A4 - Not Classifiable as a Human Carcinogen	
Xylene 1330-20-7			A4 - Not Classifiable as a Human Carcinogen	
Benzene 71-43-2	Supplement 7, 1987; Monograph 29, 1982	Known Carcinogen Reasonably Anticipated To Be A Carcinogen	A1 - Confirmed Human Carcinogen	Present

- Notes:** The International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), and OSHA have determined that there is sufficient evidence for the carcinogenicity of benzene in humans (Group 1A).

4. FIRST AID MEASURES

- Inhalation:** If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician. If symptoms or irritation occur with any exposure, call a physician.
- Skin contact:** Wash with soap and large amounts of water. Remove contaminated clothing. If symptoms or irritation occur, call a physician.
- Ingestion:** Ingestion not likely. If swallowed, do not induce vomiting and do not give liquids. Immediately call a physician.
- Eye contact:** Flush eyes with large amounts of tepid water for at least 15 minutes. If symptoms or irritation occur, call a physician.

Medical conditions aggravated by exposure: Preexisting skin, eye and respiratory disorders may be aggravated by exposure to components of this product.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

For small fires, Class B fire extinguishing media such as CO₂, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Specific hazards:

This product has been determined to be a flammable liquid per the OSHA Hazard Communication Standard, and should be handled accordingly. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information see NFPA 30 or North American Emergency Response Guide 115.

Special protective equipment for firefighters:

Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Water may be ineffective in extinguishing low flash point fires, but can be used to cool exposed surfaces. Keep run-off water out of sewers and water sources.

Flash point:

20-100 F

Autoignition temperature:

No data available.

Flammable limits in air - lower (%):

No data available.

Flammable limits in air - upper (%):

No data available.

NFPA rating:

Health: 1

Flammability: 3

Reactivity: 0

Other: -

HMS classification:

Health: 1

Flammability: 3

Reactivity: 0

Special: *See Section 8 for guidance in selection of personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Advise authorities and National Response Center (800-424-8802) if substance has entered a watercourse or sewer. Notify local health and pollution control agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids.

7. HANDLING AND STORAGE

Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since they may contain explosive residues.

Harmful concentrations of hydrogen sulfide (H₂S) gas can accumulate in excavations and low-lying areas as well as the vapor space of storage and bulk transport compartments. Stay upwind and vent open hatches before unloading.

Avoid skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

Engineering measures:	Local or general exhaust required in an enclosed area or when there is inadequate ventilation.
Respiratory protection:	Not required under normal conditions and adequate ventilation. Supplied air respirators should be used if operating conditions create airborne concentrations which exceed exposure limits for any individual components (including H ₂ S). Observe respirator protection factor criteria cited in ANSI Z88.2. Self-contained breathing apparatus should be used for fire fighting.
Skin and body protection:	Neoprene or nitrile gloves to prevent skin contact.
Eye protection:	No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields.
Hygiene measures:	Use mechanical ventilation equipment that is explosion-proof.

9. PHYSICAL AND CHEMICAL PROPERTIES:

Appearance:	Amber to Black Viscous Liquid
Physical state (Solid/Liquid/Gas):	Liquid
Substance type (Pure/Mixture):	Mixture
Color:	Amber to Black
Odor:	Mild Hydrocarbon or Rotten-egg.
Molecular weight:	Not determined.
pH:	Neutral
Boiling point/range:	100-1000 F
Melting point/range:	No data available.
Decomposition temperature:	Not applicable.
Specific gravity:	0.8-1.0
Density:	6.6-8.2 lbs/gal
Bulk density:	No data available.
Vapor density:	No data available.
Vapor pressure:	0-724 mm Hg
Evaporation rate:	No data available.
Solubility:	Slight to negligible.
Solubility in other solvents:	No data available.
Partition coefficient (n-octanol/water):	2-6
VOC content(%):	No data available.
Viscosity:	No data available.

10. STABILITY AND REACTIVITY

Stability: The material is stable at 70 F, 760 mm pressure.

Polymerization:

Will not occur.

Hazardous decomposition products:

Combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons.

Materials to avoid:

Strong oxidizers such as nitrates, chlorates, peroxides.

Conditions to avoid:

Excessive heat, sources of ignition and open flames.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information

Name	CAS Number	Inhalation:	Dermal:	Oral:
MAPLLC Petroleum Crude Oil	8002-05-9	No data available	> 2 ml/kg [Rabbit]	> 5 gm/kg [Rat]

Lifetime skin painting studies in animals with whole crude oils and crude oil fractions have produced tumors in animals following prolonged and repeated skin contact. Repeated dermal application of two different crude oils in rats produced systemic toxicity in blood, liver, thymus and bone marrow. Repeated dermal application to pregnant rats produced maternal toxicity and fetal developmental toxicity.

Summary of health effect data on crude oil components:

Hydrogen sulfide concentrations will vary significantly depending on the source and sulfur content of the crude. Sweet crudes (<0.5% sulfur) may contain toxicologically significant levels of hydrogen sulfide in the vapor spaces of bulk storage tanks and transport compartments. Concentrations of H₂S as low as 10 ppm over an 8 hour workshift may cause eye or throat irritation. Prolonged breathing of 50-100 ppm H₂S vapors can produce significant eye and respiratory irritation. Sour crudes commonly contain extremely high concentrations of H₂S (500-70,000 ppm) in the vapor spaces of bulk storage vessels. Exposure to 250-600 ppm for 15-30 minutes can produce headache, dizziness, nervousness, staggering gait, nausea and pulmonary edema or bronchial pneumonia. Concentrations >1,000 ppm will cause immediate unconsciousness and death through respiratory paralysis. Rats and mice exposed to 80 ppm H₂S, 6 hrs/day, 5 days/week for 10 weeks, did not produce any toxicity except for irritation of nasal passages. H₂S did not affect reproduction and development (birth defects or neurotoxicity) in rats exposed to concentrations of 75-80 ppm or 150 ppm H₂S, respectively. Over the years a number of acute cases of H₂S poisonings have been reported. Complete and rapid recovery is the general rule. However, if the exposure was sufficiently intense and sustained causing cerebral hypoxia (lack of oxygen to the brain), neurologic effects such as amnesia, intention tremors or brain damage are possible.

This product may contain benzene at a level of >0.1%. Repeated or prolonged exposure to benzene at concentrations in excess of the TLV may cause serious injury to blood-forming organs. Significant chronic exposure to benzene vapor has been reported to produce various blood disorders ranging from anemia to certain forms of leukemia (cancer) in man. Benzene produced tumors in rats and mice in lifetime chronic toxicity studies, but the response has not been consistent across species, strain, sex or route of exposure. Animal studies on benzene have demonstrated immune toxicity, chromosomal aberrations, testicular effects and alterations in reproductive cycles and embryo/fetotoxicity, but not teratogenicity.

This product may contain hexane at a level of >1.0%. Studies in laboratory animals have produced systemic toxicity in blood, spleen and lungs. Fetotoxicity has been observed at hexane concentrations that produced maternal toxicity. Long term exposure to high concentrations of hexane has been shown to cause testicular effects and nervous system damage.

This product may contain toluene at a level of >1.0%. Deliberate inhalation of high concentrations of toluene has been shown to cause liver, kidney and brain damage and central nervous system effects (incoordination, lassitude and memory loss) in individuals abusing toluene for its euphoric effects.

This product may contain xylene at a level of >1.0%. Gross overexposure or severe poisoning incidents in humans to xylenes has been reported to cause lung, liver, kidney, heart and brain damage as well as neurologic disturbances. Laboratory animals exposed to high doses of xylene showed evidence of effects in the liver, kidneys, lungs, spleen, heart and adrenals. Exposure of pregnant rats, mice and rabbits during gestation to significant concentrations of xylene produced maternal, fetal and developmental toxicity (skeletal retardation, cleft palate, and wavy ribs) generally at maternally toxic doses. These types of fetotoxic effects have been associated with maternal toxicity. Repeated inhalation of high xylene concentrations have shown impairment of performance abilities (behavioral tests) in animals and man. Xylene produced a mid frequency hearing loss in rats subchronically exposed to high concentrations of xylene.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects:

Coating action of oil can kill birds, plankton, algae and fish. Keep out of all bodies of water and sewage drainage systems.

Two crude oils were tested in a acute battery of ecotoxicity tests. The 96 hour lethal loading (LL50) values for rainbow trout were 21 and 41 mg/l. LL50s for invertebrate organisms (mysid) were determined to be 2.7 and 4.1 mg/l and EL50s for algae were 122 and 528 ml/kg.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations:

This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "characteristic" hazardous waste. This product could also contain benzene at >0.5 ppm and could exhibit the characteristics of "toxicity" (D018) as determined by the toxicity characteristic leaching procedure (TCLP). This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:**DOT:**

Transport Information: This material when transported via US commerce would be regulated by DOT Regulations.

Proper shipping name: Petroleum Crude Oil
UN/Identification No: UN 1267
Hazard Class: 3
Packing group: II
DOT reportable quantity (lbs): Not applicable.

TDG (Canada):

Proper shipping name: Petroleum Crude Oil
UN/Identification No: UN 1267
Hazard Class: 3
Packing group: II
Regulated substances: Not applicable.

15. REGULATORY INFORMATION

Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

OSHA Hazard Communication Standard: This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

Name	CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs
Petroleum Crude Oil	NA
Toluene	NA
Xylene	NA
Hydrogen Sulfide	hydrogen sulfide
Normal Hexane	NA
Sulfur Compounds	NA
Benzene	NA

SARA Section 304:

This product contains the following component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Name	CERCLA/SARA - Hazardous Substances and their Reportable Quantities
Petroleum Crude Oil	NA
Toluene	= 0.454 kg final RQ = 1 lb final RQ = 10 lb final RQ = 100 lb final RQ = 1000 lb final RQ = 4.54 kg final RQ = 45.4 kg final RQ = 454 kg final RQ
Xylene	= 100 lb final RQ = 45.4 kg final RQ
Hydrogen Sulfide	= 100 lb final RQ = 45.4 kg final RQ
Normal Hexane	= 2270 kg final RQ = 5000 lb final RQ
Sulfur Compounds	NA
Benzene	= 0.454 kg final RQ = 0.454 kg statutory RQ = 1 lb final RQ = 1 lb statutory RQ = 10 lb final RQ = 10 lb final RQ receives an adjustable RQ of 10 lbs based on potential carcinogenicity in August 14, 1989 final rule = 100 lb final RQ = 4.54 kg final RQ = 4.54 kg final RQ receives an adjustable RQ of 10 lbs based on potential carcinogenicity in August 14, 1989 final rule = 45.4 kg final RQ

SARA Section 311/312:

The following EPA hazard categories apply to this product:

Acute Health Hazard
Chronic Health Hazard
Fire Hazard

SARA Section 313:

This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

Name	CERCLA/SARA 313 Emission reporting:
Petroleum Crude Oil	= 100 lb Reporting Threshold Chemical Category N590, PBT Chemicals
Toluene	= 1.0 percent de minimis concentration
Xylene	= 1.0 percent de minimis concentration
Hydrogen Sulfide	None
Normal Hexane	= 1.0 percent de minimis concentration
Sulfur Compounds	None
Benzene	= 0.1 percent de minimis concentration

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Petroleum Crude Oil

Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 2648
Pennsylvania Right-To-Know:	[present]
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed

Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	SN 3758; Category Code N590
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Toluene	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	developmental toxicity; initial date 1/1/91
New Jersey Right-To-Know:	sn 1866
Pennsylvania Right-To-Know:	environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable; skin
Michigan critical materials register list:	Annual usage threshold = 100 pounds
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree
New Jersey - Environmental Hazardous Substances List:	SN 1866
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb Land/Water RQ = 1,000 lbs Air RQ
Xylene	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 2014
Pennsylvania Right-To-Know:	environmental hazard
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Annual usage threshold = 100 pounds (all isomers)
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree
New Jersey - Environmental Hazardous Substances List:	SN 2014
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb Land/Water RQ = 1,000 lbs Air RQ
Hydrogen Sulfide	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1017
Pennsylvania Right-To-Know:	environmental hazard
Massachusetts Right-To Know:	Extraordinarily hazardous
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Not Listed.

Massachusetts Extraordinarily Hazardous Substances:	extraordinarily hazardous
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - fourth degree
New Jersey - Environmental Hazardous Substances List:	SN 1017
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 100 lbs Air RQ = 100 lbs Land/Water RQ
Normal Hexane	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	sn 1340
Pennsylvania Right-To-Know:	[present]
Massachusetts Right-To Know:	Present
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	flammable - third degree
New Jersey - Environmental Hazardous Substances List:	SN 1340
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb Air RQ = 1 lb Land/Water RQ
Sulfur Compounds	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	Not Listed
New Jersey Right-To-Know:	Not Listed.
Pennsylvania Right-To-Know:	Not Listed.
Massachusetts Right-To Know:	Not Listed.
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Not Listed
Michigan critical materials register list:	Not Listed.
Massachusetts Extraordinarily Hazardous Substances:	Not Listed
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	Not Listed
New Jersey - Special Hazardous Substances:	Not Listed
New Jersey - Environmental Hazardous Substances List:	Not Listed
Illinois - Toxic Air Contaminants	Not Listed
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	Not Listed
Benzene	
Louisiana Right-To-Know:	Not Listed
California Proposition 65:	carcinogen; initial date 2/27/87 developmental toxicity; initial date 12/26/97 male reproductive toxicity; initial date 12/26/97
New Jersey Right-To-Know:	sn 0197

Pennsylvania Right-To-Know:	environmental hazard; special hazardous substance
Massachusetts Right-To Know:	Carcinogen; Extraordinarily hazardous
Florida substance List:	Not Listed.
Rhode Island Right-To-Know:	Toxic, Flammable, Carcinogen; skin
Michigan critical materials register list:	Annual usage threshold = 100 pounds
Massachusetts Extraordinarily Hazardous Substances:	carcinogen; extraordinarily hazardous
California - Regulated Carcinogens:	Not Listed
Pennsylvania RTK - Special Hazardous Substances:	[present]
New Jersey - Special Hazardous Substances:	carcinogen; flammable - third degree; mutagen
New Jersey - Environmental Hazardous Substances List:	SN 0197
Illinois - Toxic Air Contaminants	Present
New York - Reporting of Releases Part 597 - List of Hazardous Substances:	= 1 lb Land/Water RQ = 10 lbs Air RQ

Canadian Regulatory Information:

Canada DSL/NDSL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or the Non Domestic Substance List (NDSL).

Name	Canada - WHMIS: Classifications of Substances:	Canada - WHMIS: Ingredient Disclosure:
Petroleum Crude Oil	B2	
Toluene	B2; D2A	1% (English Item 1578, French Item 1622)
Xylene	B2; D2A; D2B	
Hydrogen Sulfide	A; B1; D1A; D2B	1% (English Item 851, French Item 1550)
Normal Hexane	B2; D2B	1% (English Item 827, French Item 964) 1% (English Item 828, French Item 965)
Benzene	B2; D2A	0.1% (English Item 153, French Item 277)

16. OTHER INFORMATION

Additional Information: The pronounced and easily-recognized rotten egg odor of hydrogen sulfide gas (H₂S) can be detected at concentrations as low as 0.003-0.13 ppm. Since higher H₂S concentrations (100-200 ppm) cause olfactory fatigue and other hydrocarbon odors can "mask" H₂S, the sense of smell cannot be used as a reliable indicator of H₂S exposure.

Prepared by: Craig M. Parker Manager, Toxicology and Product Safety

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End of Safety Data Sheet