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## MATERIAL SAFETY DATA SHEET

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KEROSENE (FUEL)

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### 1. PRODUCT AND COMPANY IDENTIFICATION

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PRODUCT NAME: KEROSENE (FUEL)  
SUPPLIER: GULF OIL LIMITED PARTNERSHIP  
275 WASHINGTON STREET, SUITE 300  
NEWTON, MASSACHUSETTS 02458-1646

24 - Hour Transportation Emergency:  
CHEMTREC: 800-424-9300

MSDS Internet Website: WWW.GULFOIL.COM

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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

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CHEMICAL NAMES AND SYNONYMS: KEROSENE

GLOBALLY REPORTABLE MSDS INGREDIENTS:

Substance Name	Approx. Wt%
HYDROTREATED LIGHT DISTILLATE (64742-47-8)	100

COMPONENT(S) OF PRODUCT INGREDIENTS INCLUDE:

NAPHTHALENE (91-20-3)	0.8
ETHYL BENZENE (100-41-4)	0.5

NOTE: Composition may contain up to 0.3% glycol ethers (DGME, EGME) and proprietary additives.

See Section 8 for exposure limits (if applicable).

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### 3. HAZARDS IDENTIFICATION

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This product is considered hazardous according to regulatory guidelines

(See Section 15).

**EMERGENCY OVERVIEW:** Clear Liquid. Material is combustible. Liquid can release vapors that readily form flammable mixtures at or above the flash point. Product can accumulate a static charge which may cause a fire or explosion. DOT ERG No. : 128

**POTENTIAL HEALTH EFFECTS:** This product can irritate and defat the skin. Prolonged and/or repeated skin contact may cause dermatitis. High concentrations of vapors may be irritating to the eyes and respiratory system and act as an anesthetic. Low viscosity material-if swallowed may enter the lungs and cause lung damage.

**POTENTIAL ENVIRONMENTAL EFFECTS:** Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

For further health effects/toxicological data, see Section 11.

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#### 4. FIRST AID MEASURES

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**EYE CONTACT:** Flush thoroughly with water. If irritation occurs, call a physician.

**SKIN CONTACT:** Wash contact areas with soap and water. Immediately remove contaminated clothing. Launder contaminated clothing before reuse. (See Section 16 - Injection Injury)

**INHALATION:** Remove from further exposure. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with mechanical device or use mouth-to-mouth resuscitation.

**INGESTION:** Seek immediate medical attention. Do not induce vomiting.

**NOTE TO PHYSICIANS:** Material if aspirated into the lungs may cause chemical pneumonitis. **PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE:** Hydrocarbon Solvents/Petroleum Hydrocarbons- Skin contact may aggravate an existing dermatitis.

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#### 5. FIRE-FIGHTING MEASURES

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**EXTINGUISHING MEDIA:** Carbon dioxide, foam, dry chemical and water fog.

**SPECIAL FIRE FIGHTING PROCEDURES:** Water should be used to keep fire-exposed containers cool. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

**SPECIAL PROTECTIVE EQUIPMENT:** For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Material is combustible. Liquid can release vapors that readily form flammable mixtures at or above the flash point. Product can accumulate a static charge which may cause a fire or explosion.

**COMBUSTION PRODUCTS:** Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

Flash Point C(F): > 38(100) (ASTM D-93).

Flammable Limits (approx.% vol.in air) - LEL: 0.7%, UEL: 5.0%

NFPA HAZARD ID: Health: 1, Flammability: 2, Reactivity: 0

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## 6. ACCIDENTAL RELEASE MEASURES

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**NOTIFICATION PROCEDURES:** Report spills/releases as required to appropriate authorities. U.S. Coast Guard and EPA regulations require immediate reporting of spills/releases that could reach any waterway including intermittent dry creeks. Report spill/release to Coast Guard National Response Center toll free number (800)424-8802. In case of accident or road spill notify CHEMTREC (800) 424-9300.

**PROCEDURES IF MATERIAL IS RELEASED OR SPILLED:**

**LAND SPILL:** Eliminate sources of ignition. Shut off source taking normal safety precautions. Take measures to minimize the effects on ground water. Recover by pumping using explosion-proof equipment or contain spilled liquid with sand or other suitable absorbent and remove mechanically into containers. If necessary, dispose of adsorbed residues as directed in Section 13.

**WATER SPILL:** Eliminate sources of ignition and warn other ships in the vicinity to stay clear. Notify port and other relevant authorities. Confine with booms if skimming equipment is available to recover the spill. Otherwise disperse in unconfined waters, if permitted by local authorities and environmental agencies. If permitted by regulatory authorities the use of suitable dispersants should be considered where recommended in local oil spill procedures.

**ENVIRONMENTAL PRECAUTIONS:** Prevent material from entering sewers, water sources or low lying areas; advise the relevant authorities if it has, or if it contaminates soil/vegetation.

**PERSONAL PRECAUTIONS:** See Section 8

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## 7. HANDLING AND STORAGE

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**HANDLING:** Keep product away from high energy ignition sources, heat, sparks, pilot lights, static electricity, and open flame. Harmful in contact with or if absorbed through the skin. Avoid inhalation of vapors or mists. Use in well ventilated area away from all ignition sources. Do not fill container in or on a vehicle. Static electricity may ignite vapors and cause fire. Place container on ground when filling and keep nozzle in contact with container. See Section 8 for additional personal protection advice when handling this product.

**STORAGE:** Store in a cool area. Small containers of approved design, properly sealed and labeled, should be stored in well ventilated surroundings and kept out of reach of children. Eliminate all sources of ignition from the storage and handling area.

**SPECIAL PRECAUTIONS:** To prevent and minimize fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system. Do not use electronic devices (including but not limited to cellular phones, computers, calculators, pagers, etc.) in or around any fueling operation or storage area unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. Electrical equipment and fittings must comply with local fire prevention regulations for this class of product. Use the

correct grounding procedures. Refer to national or local regulations covering safety at petroleum handling and storage areas for this product.

EMPTY CONTAINER WARNING: Empty containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### OCCUPATIONAL EXPOSURE LIMITS:

Gulf Oil Limited Partnership recommends an 8-hour time-weighted average (TWA) exposure of 500 mg/m<sup>3</sup> total vapor (approx. 100 ppm) or 5 mg/m<sup>3</sup> stable aerosols.

Substance Name (CAS-No.)	Source	---TWA---		----STEL----		NOTE
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	
HYDROTREATED LIGHT DISTILLATE (64742-47-8)	OTHER	300				
NAPHTHALENE (91-20-3)	OSHA	10	50	15	75	
	ACGIH	10	52	15	79	
ETHYL BENZENE (100-41-4)	OSHA	100	435	125	545	
	ACGIH	100	434	125	543	

NOTE: Limits shown for guidance only. Follow applicable regulations.

VENTILATION: Use in well ventilated area with local exhaust ventilation. Ventilation equipment must be explosion proof.

RESPIRATORY PROTECTION: Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

EYE PROTECTION: If splash with liquid is possible, chemical type goggles should be worn.

SKIN PROTECTION: Impervious gloves should be worn. Good personal hygiene practices should always be followed.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Typical physical properties are given below. Consult Product Data Sheet for specific details.

APPEARANCE: Liquid  
COLOR: Clear  
ODOR: Hydrocarbon  
ODOR THRESHOLD-ppm: NE  
pH: NA  
BOILING POINT C(F): > 149(300)  
MELTING POINT C(F): NA  
FLASH POINT C(F): > 38(100) (ASTM D-93)  
FLAMMABILITY (solids): NE  
AUTO FLAMMABILITY C(F): NE  
EXPLOSIVE PROPERTIES: NA  
OXIDIZING PROPERTIES: NA  
VAPOR PRESSURE-mmHg 20 C: < 5.0  
VAPOR DENSITY: NE  
EVAPORATION RATE: NE  
RELATIVE DENSITY, 15/4 C: 0.79-0.84  
SOLUBILITY IN WATER: Negligible  
PARTITION COEFFICIENT: > 3.5  
VISCOSITY AT 40 C, cSt: < 1.0  
VISCOSITY AT 100 C, cSt: NE  
POUR POINT C(F): -32(-25)  
FREEZING POINT C(F): NE  
VOLATILE ORGANIC COMPOUND: NE  
DMSO EXTRACT, IP-346 (WT.%): NA  
NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

FOR FURTHER TECHNICAL INFORMATION, CONTACT YOUR MARKETING REPRESENTATIVE

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#### 10. STABILITY AND REACTIVITY

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STABILITY (THERMAL, LIGHT, ETC.): Stable.  
CONDITIONS TO AVOID: Heat, sparks, flame and build up of static electricity.  
INCOMPATIBILITY (MATERIALS TO AVOID): Halogens, strong acids, alkalies, and oxidizers.  
HAZARDOUS DECOMPOSITION PRODUCTS: Product does not decompose at ambient temperatures.  
HAZARDOUS POLYMERIZATION: Will not occur.

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#### 11. TOXICOLOGICAL DATA

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---ACUTE TOXICOLOGY---

ORAL TOXICITY (RATS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.  
DERMAL TOXICITY (RABBITS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.  
INHALATION TOXICITY (RATS): Practically non-toxic (LC50: greater than 5 mg/l). ---Based on testing of similar products and/or the components.  
EYE IRRITATION (RABBITS): Practically non-irritating. (Draize score: greater than 6 but 15 or less). ---Based on testing of similar products and/or the components.

SKIN IRRITATION (RABBITS): Irritant.

---REPRODUCTIVE TOXICOLOGY (SUMMARY)---

A review of the literature indicates that inhalation of kerosine vapors does not cause reproductive or developmental effects in laboratory animals. There is no evidence of effects on humans.

---CHRONIC TOXICOLOGY (SUMMARY)---

Certain straight-run middle distillates have been found to produce skin tumors in laboratory mouse skin-painting tests, but these have usually been associated with a high level of skin irritation. Gulf Oil Limited Partnership has conducted tests that determined that the irritation produces the tumors. Therefore, if the precautions outlined in this MSDS are followed to minimize repeated or prolonged skin contact which could cause irritation, these oils should pose no carcinogenic hazard to humans. Prolonged repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis.

---OTHER TOXICOLOGY DATA---

This product contains ethylbenzene. The International Agency for Research on Cancer (IARC) has evaluated ethylbenzene and classified it as possibly carcinogenic to humans (Group 2B) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans.

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12. ECOLOGICAL INFORMATION

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ENVIRONMENTAL FATE AND EFFECTS:

In the absence of specific environmental data for this product, this assessment is based on information for representative substances.

ECOTOXICITY: Based on test results for similar products, this substance may be harmful to aquatic organisms such as fish (LL =10-100 mg/L), and toxic to algae and daphnia (EL50/IrL50 =1-10 mg/L.)

MOBILITY: Dissolution of the higher molecular weight hydrocarbon components in water will be limited, but losses through sediment adsorption may be significant.

PERSISTENCE AND DEGRADABILITY: When released into the environment, most of the constituents of kerosine fuels will volatilize and be photodegraded in the atmosphere. The less volatile, more water-soluble components which are aromatic hydrocarbons will also undergo aqueous photodegradation. The majority of the components in this product are expected to be inherently biodegradable.

BIOACCUMULATIVE POTENTIAL: Not established.

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13. DISPOSAL CONSIDERATIONS

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WASTE DISPOSAL: Product is suitable for burning for fuel value in compliance with applicable laws and regulations and consideration of product characteristics at time of disposal.

RCRA INFORMATION: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity, or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP).

FLASH: > 38(100) C(F)

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14. TRANSPORT INFORMATION  
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NOTE: The flash point of this material is > 100F. Regulatory classifications vary as follows:

DOT: Flammable Liquid OR Combustible Liquid - (49CFR 173.120(b)(2))  
OSHA: Combustible Liquid  
IATA/IMO: Flammable Liquid

USA DOT:

SHIPPING NAME:	Kerosene
HAZARD CLASS & DIV:	COMBUSTIBLE LIQUID
ID NUMBER:	UN1223
ERG NUMBER:	128
PACKING GROUP:	PG III
STCC:	NE
DANGEROUS WHEN WET:	No
POISON:	No
LABEL(s):	NA
PLACARD(s):	Combustible
PRODUCT RQ:	NA
MARPOL III STATUS:	NA
OTHER INFORMATION:	Non-bulk quantities (<119 gallons) may be shipped as non regulated.

RID/ADR:

HAZARD CLASS:	3
PACKING GROUP:	III
LABEL:	3
DANGER NUMBER:	30
UN NUMBER:	1223
SHIPPING NAME:	Kerosene
REMARKS:	NA

IMO:

HAZARD CLASS & DIV:	3
UN NUMBER:	1223
PACKING GROUP:	PG III
SHIPPING NAME:	Kerosene
LABEL(s):	Flammable Liquid
MARPOL III STATUS:	NA

ICAO/IATA:



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NAPHTHALENE (COMPONENT ANALYSIS) 91-20-3 16, 22  
(0.80%)  
ETHYL BENZENE (COMPONENT ANALYSIS) 100-41-4 1, 8, 24

--- REGULATORY LISTS SEARCHED ---

1=ACGIH ALL	6=IARC 1	11=TSCA 4	16=CA P65 CARC	21=LA RTK
2=ACGIH A1	7=IARC 2A	12=TSCA 5a2	17=CA P65 REPRO	22=MI 293
3=ACGIH A2	8=IARC 2B	13=TSCA 5e	18=CA RTK	23=MN RTK
4=NTP CARC	9=OSHA CARC	14=TSCA 6	19=FL RTK	24=NJ RTK
5=NTP SUS	10=OSHA Z	15=TSCA 12b	20=IL RTK	25=PA RTK
				26=RI RTK

Code key: CARC=Carcinogen; SUS=Suspected Carcinogen; REPRO=Reproductive

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16. OTHER INFORMATION  
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USE: FUEL/SOLVENT

NOTE: PRODUCTS OF GULF OIL LIMITED PARTNERSHIP IS NOT FORMULATED TO CONTAIN PCBS.

Health studies have shown that many hydrocarbons pose potential human health risks which may vary from person to person. Information provided on this MSDS reflects intended use. This product should not be used for other applications. In any case, the following advice should be considered:

INJECTION INJURY WARNING: If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

Precautionary Label Text:

CONTAINS KEROSENE - UNSPECIFIED

CAUTION!

COMBUSTIBLE LIQUID AND VAPOR. CAUSES SKIN IRRITATION. MAY CAUSE NOSE, THROAT AND LUNG IRRITATION, DIZZINESS, NAUSEA, LOSS OF CONSCIOUSNESS. LOW VISCOSITY MATERIAL-IF SWALLOWED, MAY BE ASPIRATED AND CAN CAUSE SERIOUS OR FATAL LUNG DAMAGE.

Keep away from heat, sparks, and flame. Avoid breathing vapor. Avoid contact with skin or clothing. Keep container closed. Use with adequate ventilation.

In case of contact, wash skin with soap and water. Remove contaminated clothing. Destroy or wash clothing before reuse. If swallowed, seek immediate medical attention. Do not induce vomiting. Only induce

vomiting at the instruction of a physician.

For industrial use only. Not intended or suitable for use in or around a household or dwelling.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights. Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm are created by the combustion of this product. Refer to product Material Safety Data Sheet for further safety and health information.

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Approval Date: May 2007  
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