



7033158-60 KEROSENE
MATERIAL SAFETY DATA BULLETIN

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: KEROSENE
25/04/2003

SUPPLIER: Esso Petroleum Company
ExxonMobil House
Ermyn Way, Leatherhead
Surrey, KT22 8UX
UK

Environmental/Health Emergency telephone: 01372 222 000 (UK)
44 1372 222 000 (Ireland)

INTENDED USE: SOLVENT/FUEL

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAMES AND SYNONYMS: Kerosine

globally reportable MSDS ingredients:

Substance Name	Approx. Wt%	EU Classification
Kerosine (CAS 8008-20-6) (EINECS 232-366-4)	100	R10 Xn;R65 R67 Xi;R38 N;R51/53

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

3. HAZARDS IDENTIFICATION

This product is considered hazardous according to EU regulatory guidelines (see Section 15).

Symbol: Xn N Harmful, Dangerous for the environment..

Risk Phrase(s): R10-38-67-65-51/53.

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.

NOTE: This product should not be used for any other purpose without expert advice.

4. FIRST AID MEASURES

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

SKIN CONTACT: Wash contact areas with soap and water. Immediately remove contaminated clothing. Launder contaminated clothing before re-use. (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 DOCTORS: 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.

5. FIRE-FIGHTING MEASURES

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 waterways or drinking water supply.

SPECIAL PROTECTIVE EQUIPMENT: For fires in enclosed areas, firefighters 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): 46(114) (ASTM D-56).

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

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

6. ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES: Report spills/releases as required to appropriate authorities. In case of accident or road spill, contact the Police and Fire Brigade and, if appropriate, the Area Water Authority.

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

7. HANDLING AND STORAGE

SPECIFIC USES: SOLVENT/FUEL

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 vapours 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 vapour) 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 returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:

ExxonMobil recommends an 8-hour time-weighted average (TWA) exposure of 500 mg/m³ total vapor (approx. 100 ppm) or 5 mg/m³ stable aerosols.

EXPOSURE LIMITS:

Substance Name (CAS-No.)	Source	--- <th>----<th rowspan="2">NOTE</th></th>		---- <th rowspan="2">NOTE</th>	NOTE
		ppm	mg/m ³	ppm	
KEROSENE (CAS 8008-20-6) (EINECS 232-366-4)					
Total HC Vapor Skin	ACGIH		200		

UKMEL=UK Max Exposure Limit UKOES=UK Occupational Exposure Standard

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

VENTILATION: Use in well ventilated area. Local exhaust ventilation may be necessary to minimise excessive vapour or mist release into the working environment. 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 MUST be worn. Good personal hygiene practices should always be followed.

ENVIRONMENTAL CONTROLS: SEE SECTION 7

9. PHYSICAL AND CHEMICAL PROPERTIES

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

GENERAL:

PHYSICAL STATE: Liquid

COLOUR: Light Colored
ODOUR: Petroleum Hydrocarbon
ODOUR THRESHOLD-ppm: NE

IMPORTANT HEALTH, SAFETY AND ENVIRONMENTAL INFORMATION:

pH: NE
BOILING POINT C(F): < 290(554)
FLASH POINT C(F): 46(114) (ASTM D-56)
FLAMMABILITY (solids): NE
AUTO FLAMMABILITY C(F): 250(482)
EXPLOSIVE PROPERTIES: NA
OXIDIZING PROPERTIES: NA
VAPOUR PRESSURE-mmHg 20 C: 3.0
RELATIVE DENSITY, 15/4 C: 0.79
SOLUBILITY IN WATER: Negligible
PARTITION COEFFICIENT: > 3.5
VISCOSITY AT 40 C, cSt: < 1.0
VISCOSITY AT 100 C, cSt: NE
VAPOUR DENSITY: NE
EVAPORATION RATE: NE

OTHER INFORMATION:

MELTING POINT C(F): NA
POUR POINT C(F): -32(-25)
FREEZING POINT C(F): NE
DMSO EXTRACT, IP-346 (WT.%): NA
NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

FOR FURTHER TECHNICAL INFORMATION, CONTACT YOUR MARKETING REPRESENTATIVE

10. STABILITY AND REACTIVITY

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 oxidisers.
HAZARDOUS DECOMPOSITION PRODUCTS: Product does not decompose at ambient temperatures.
HAZARDOUS POLYMERISATION: Will not occur.

11. TOXICOLOGICAL DATA

---ACUTE TOXICOLOGY---

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

than 6 but 15 or less). ---Based on testing of similar products and/or the components.

SKIN IRRITATION: Irritant.

---REPRODUCTIVE TOXICOLOGY (SUMMARY)---

A review of the literature indicates that inhalation of kerosene vapours does not cause reproductive or developmental effects in laboratory studies. 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. ExxonMobil 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.

12. ECOLOGICAL INFORMATION

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.

13. DISPOSAL CONSIDERATIONS

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.

EUROPEAN WASTE CODE: 13 07 03 (other fuels (including mixtures)) Waste generated from the intended use of this product is assigned the above waste disposal code. However, deviation from the intended use and/or the presence of any potential contaminants may require an alternative waste disposal code to be assigned by the end user. This waste is considered as a hazardous waste pursuant to Directive 91/689/EEC on hazardous waste, and subject to the provisions of that Directive unless Article 1(5) of the Directive applies.

14. TRANSPORT INFORMATION

USA DOT:

SHIPPING NAME:	Kerosine
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:	Kerosine
REMARKS:	NA

IMO:

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

ICAO/IATA:

HAZARD CLASS & DIV:	3
ID/UN Number:	1223
PACKING GROUP:	PG III

SHIPPING NAME: Kerosine
SUBSIDIARY RISK: NA
LABEL(s): Flammable Liquid

STATIC ACCUMULATOR (50 picosiemens or less): YES

15. REGULATORY INFORMATION

EU Labelling: Product is dangerous as defined by the European Union
Dangerous Substances/Preparations Directives.

Symbol: Xn N Harmful, Dangerous for the environment..

Risk Phrase(s): R10-38-67-65-51/53.

Flammable. Irritating to skin. Vapors may cause drowsiness and
dizziness. Harmful: may cause lung damage if swallowed. Toxic
to aquatic organisms, may cause long-term adverse effects in the
aquatic environment.

Safety Phrase(s): S16-43-24-62.

Keep away from sources of ignition - No smoking. In case of fire
use foam/dry powder/CO2. Avoid contact with skin. If swallowed,
do not induce vomiting: seek medical advice immediately and show
this container or label.

Contains: Kerosine-unspecified.

Substance Identification Number: 1223

THE FOLLOWING PRODUCT INGREDIENTS ARE CITED ON THE LISTS BELOW:

CHEMICAL NAME CAS NUMBER LIST CITATIONS

*** NO REPORTABLE INGREDIENTS ***

--- REGULATORY LISTS SEARCHED ---

1=IARC 1 6=NO ALLERGI 11=DE TERAT B 16=DE CARC B 21=CH CARC
2=IARC 2A 7=SE ALLERGY 12=DE TERAT C 17=AT TERAT A
3=IARC 2B 8=SE CARC 13=DE TERAT D 18=AT TERAT B
4=NTP CARC 9=DK CARC 14=DE CARC A1 19=AT TERAT C
5=NTP SUS 10=DE TERAT A 15=DE CARC A2 20=AT TERAT D

CARC=CARCINOGEN; SUS=SUSPECTED CARCINOGEN; TERAT=TERATOGENIC

AT = Austria DE = Germany NO = Norway
CH = Switzerland DK = Denmark SE = Sweden

16. OTHER INFORMATION

LIBRARY OF RISK PHRASES LISTED IN SECTION 2 OF THIS DOCUMENT:

R10 Flammable.
R38 Irritating to skin.
R51/53 Toxic to aquatic organisms, may cause long-term adverse
effects in the aquatic environment.

R65 Harmful: may cause lung damage if swallowed.
R67 Vapors may cause drowsiness and dizziness.

NOTE: EXXONMOBIL PRODUCTS ARE 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.

COSHH Regulations: Product reviewed and considered to be potentially hazardous to health. The Regulations must be followed and measures to control exposure may be necessary.

Any sections of this Material Safety Data Sheet which are printed in bold text highlights recent significant changes which have been made to the advice or information given.

For Internal Use Only: MHC: 1* 1* 1* 1* 2, MPPEC: C, TRN:
7033158-60, ELIS: 033158
EHS Approval Date: 25APR2003

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