

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: KEROSENE

Manufacturer Information:

Philadelphia Energy Solutions
1735 Market Street LL

Philadelphia, Pennsylvania, 19103-7583
msds@PES-companies.com

Product Use:

No Data

Emergency Phone Numbers:

Chemtrec (800) 424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Amount (Vol%)
KEROSENE 2-K	8008-20-6	100 - 100
NAPHTHALENE	91-20-3	0 - 3

EXPOSURE GUIDELINES (SEE SECTION 15 FOR ADDITIONAL EXPOSURE LIMITS)

	CAS No.	Governing Body	Exposure Limits		
Limit for the product	8008-20-6	ACGIH	TWA	200	mg/m3
Limit for the product	8008-20-6	ACGIH	TLV	30	ppm
NAPHTHALENE	91-20-3	ACGIH	STEL	15	ppm
NAPHTHALENE	91-20-3	ACGIH	TWA	10	ppm
NAPHTHALENE	91-20-3	OSHA	TWA	10	ppm
KEROSENE 2-K	8008-20-6	ACGIH	TWA	200	mg/m3
KEROSENE 2-K	8008-20-6	ACGIH	TLV	30	ppm

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Caution! Combustible liquid and vapor. Vapors may cause flash fire or explosion. Static accumulator. May form an ignitable vapor/air mixture. Harmful or fatal if swallowed. Pulmonary aspiration hazard. While ingesting or vomiting, may enter lungs and produce damage. May produce nervous system effects, including drowsiness, dizziness, coma and even death. May cause skin irritation. Contains material or materials that may cause cancer based on animal data.

Hazards Ratings:

Key: 0 = least, 1 = slight, 2 = moderate, 3 = high, 4 = extreme

	Health	Fire	Reactivity	PPI
NFPA	2	2	0	

POTENTIAL HEALTH EFFECTS

- **PRE-EXISTING MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE**

The following diseases or disorders may be aggravated by exposure to this product: skin, eye, nervous system, respiratory system, lung (asthma-like conditions),

- **INHALATION**

Excessive exposure to mists or vapors generated by heat may cause irritation to eyes, nose, throat, lungs and respiratory tract. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis and loss of consciousness and even death).

LC50 (mg/l): no data

LC50 (mg/m³): no data

LC50 (ppm): no data

- **SKIN**

Practically non-toxic if absorbed through the skin. Moderately irritating to the skin. Material has produced skin tumors in laboratory animals. May produce skin tumors upon prolonged and repeated contact in the absence of good personal hygiene. Studies have shown that thorough removal of this oil from the skin can prevent these toxic effects.

Draize Skin Score: no data

Out of 8.0

LD50 (mg/kg): no data

- **EYES**

Substance causes slight eye irritation.

- **INGESTION**

Harmful or fatal if swallowed. Pulmonary aspiration hazard. While ingesting or vomiting, may enter lungs and produce damage.

LD50 (g/kg): no data

4. FIRST AID MEASURES

- **INHALATION**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen and continue to monitor. Get immediate medical attention.

- **SKIN**

Wash with soap and water for 20 minutes. Get medical attention if irritation develops or persists. Wash clothing before reuse.

- **EYES**

Flush eye with water for 20 minutes. Get medical attention.

- **INGESTION**

Do not induce vomiting! Do not give liquids! Get medical attention immediately.

5. FIRE FIGHTING MEASURES

- **EXTINGUISHING MEDIA**

Water spray; Regular foam; Dry chemical; Carbon dioxide;

- **FIRE FIGHTING INSTRUCTIONS**

Use water spray to cool fire exposed tanks and containers. The use of fresh air equipment such as Self Contained Breathing Apparatus (SCBA) or Supplied Air Respirators should be worn for fire fighting if exposure or potential exposure to products of combustion is expected.

- **FLAMMABLE PROPERTIES**

Combustible liquid and vapor. STATIC ACCUMULATOR. This liquid may form an ignitable vapor-air mixture in closed tanks or containers.

	Typical	Minimum	Maximum	Text Result	Units	Method
Flash Point				125 MINIMUM TCC	F	N/A
Autoignition Temperature				444 ESTIMATED	F	N/A
Lower Explosion Limit	0.7				%	N/A
Upper Explosion Limit	5				%	N/A

6. ACCIDENTAL RELEASE MEASURES

Prevent ignition, stop leak and ventilate the area. Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Use appropriate personal protective equipment as stated in Section 8 of this MSDS. Advise the Environmental Protection Agency (EPA) and appropriate state agencies, if required. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Vacuum or sweep up material and place in a disposal container.

7. HANDLING AND STORAGE

- **HANDLING**

Use only in a well-ventilated area. **STATIC ACCUMULATOR.** This liquid may form an ignitable vapor-air mixture in closed tanks or containers. This liquid may accumulate static electricity even when transferred into properly grounded containers. Bonding and grounding may be insufficient to remove static electricity. Static electricity accumulation may be significantly increased by the presence of small quantities of water. Always bond receiving container to the fill pipe before and during loading, following NFPA-77 and/or API RP 2003 requirements. Automatic gauging devices and other floats in vessels or tanks which contain static accumulating liquids should be electrically bonded to the shell. Bonding and grounding alone may be inadequate to eliminate fire and explosion hazards associated with electrostatic charges. In addition to bonding and grounding, efforts to mitigate the hazards of an electrostatic discharge may include, but are not limited to, ventilation, inerting and/or reduction of transfer velocities. Always keep the nozzle in contact with the container throughout the loading process. Do not fill any portable containers in or on a vehicle. Special precautions, such as reduced loading rates and increased monitoring, must be observed during "switch loading" operations (i.e. loading this material in tanks or shipping compartments that previously contained middle distillates or similar products). Non-equilibrium conditions may increase the risks associated with static electricity such as tank and container filling, tank cleaning, sampling, gauging, loading, filtering, mixing, agitation, etc. Dissipation of electrostatic charges may be improved with the use of conductivity additives when used with other mitigating efforts, including bonding and grounding. Avoid breathing (dust, vapor, mist, gas). Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Never siphon by mouth.

- **STORAGE**

Keep away from heat, sparks, and flame. Keep container closed when not in use. NFPA class II storage. Flash point is greater than 100 degrees F and less than 140 degrees F.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Consult With a Health and Safety Professional for Specific Selections

- **ENGINEERING CONTROLS**

Use with adequate ventilation. Ventilation is normally required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Mechanical ventilation recommended. Good general ventilation should be sufficient to control airborne levels.

- **PERSONAL PROTECTION**

- **EYE PROTECTION**

Splash proof chemical goggles are recommended to protect against the splash of product.

- **GLOVES or HAND PROTECTION**

The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Protective gloves are recommended to protect against contact with product. Nitrile; Polyethylene; Viton; Neoprene; Polyvinyl chloride (PVC); Polyvinyl alcohol;

▪ **RESPIRATORY PROTECTION**

Concentration in air determines the level of respiratory protection needed. Use only NIOSH certified respiratory equipment. Half-mask air purifying respirator with organic vapor cartridges is acceptable for exposures to ten (10) times the exposure limit. Full-face air purifying respirator with organic vapor cartridges is acceptable for exposures to fifty (50) times the exposure limit. Exposure should not exceed the cartridge limit of 1000 ppm. Protection by air purifying respirators is limited. Use a positive pressure-demand full-face supplied air respirator or SCBA for exposures greater than fifty (50) times the exposure limit. If exposure is above the IDLH (Immediately Dangerous to Life and Health) or there is the possibility of an uncontrolled release, or exposure levels are unknown, then use a positive pressure-demand full-face supplied air respirator with escape bottle or SCBA. Wear a NIOSH-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

▪ **OTHER**

Where splashing is possible, full chemically resistant protective clothing and boots are required. The following materials are acceptable for use as protective clothing: Nitrile; Polyethylene; Viton; Remove contaminated clothing and wash before reuse. For non-fire emergencies, positive pressure SCBA and structural firefighter's protective clothing will provide only limited protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Property	Typical	Units	Text Result	Reference
Appearance		N/A	COLORLESS LIQUID.	
Boiling Point		F	340 TO 500	
Bulk Density		lb/gal	no data	
Liquid Conductivity		ft^2		
Melting Point		F	no data	
Molecular Weight		g/mole	no data	
Octanol/Water Coefficient		N/A	no data	
pH		N/A	no data	
Specific Gravity	0.81	N/A		
Solubility In Water		wt %	NIL	
Odor		N/A	DISTINCT ODOR.	
Odor Threshold		ppm	no data	
Vapor Pressure		mmHg	20 AT 158F	@ 20 C
Viscosity (F)		SUS	no data	
Viscosity (C)		CsT	no data	
% Volatile	100	wt %		

10. STABILITY AND REACTIVITY

• **STABILITY**

Stable

• **CONDITIONS TO AVOID**

Avoid heat, sparks and open flame.

• **INCOMPATIBILITY**

Strong oxidizers

• **HAZARDOUS DECOMPOSITION PRODUCTS**

Combustion may produce carbon monoxide, carbon dioxide and other asphyxiants.

• **HAZARDOUS POLYMERIZATION**

Will not polymerize.

11. ECOLOGICAL INFORMATION

No data available

12. DISPOSAL CONSIDERATIONS

Follow federal, state and local regulations. This material is a RCRA hazardous waste. Do not flush material to drain or storm sewer. Contract to authorized disposal service.

13. TRANSPORT INFORMATION

<u>Governing Body</u>	<u>Mode</u>	<u>Proper Shipping Name</u>
DOT	Ground	Kerosene

<u>Governing Body</u>	<u>Mode</u>	<u>Hazard Class</u>	<u>UN/NA No.</u>	<u>Label</u>
DOT	Ground	3 (Flammable liquid)	1223	Placard: Flammable Liquid

14. REGULATORY INFORMATION

<u>Regulatory List</u>	<u>Component</u>	<u>CAS No.</u>
ACGIH - Occupational Exposure Limits - Carcinogens	KEROSENE	8008-20-6
ACGIH - Occupational Exposure Limits - TWAs	KEROSENE	8008-20-6
ACGIH - Skin Absorption Designation	KEROSENE	8008-20-6
Inventory - Australia (AICS)	KEROSENE	8008-20-6
Inventory - Canada - Domestic Substances List	KEROSENE	8008-20-6
Inventory - China	KEROSENE	8008-20-6
Inventory - European EINECS Inventory	KEROSENE	8008-20-6
Inventory - Japan - (ENCS)	KEROSENE	8008-20-6
Inventory - Korea - Existing and Evaluated	KEROSENE	8008-20-6
Inventory - New Zealand	KEROSENE	8008-20-6
Inventory - Philippines Inventory (PICCS)	KEROSENE	8008-20-6
Inventory - TSCA - Sect. 8(b) Inventory	KEROSENE	8008-20-6
Massachusetts - Right To Know List	KEROSENE	8008-20-6
New Jersey - Department of Health RTK List	KEROSENE	8008-20-6
New Jersey - Env Hazardous Substances List	KEROSENE	8008-20-6
Pennsylvania - RTK (Right to Know) List	KEROSENE	8008-20-6
ACGIH - Occupational Exposure Limits - Carcinogens	KEROSENE 2-K	8008-20-6
ACGIH - Occupational Exposure Limits - Carcinogens	NAPHTHALENE	91-20-3
ACGIH - Occupational Exposure Limits - TWAs	KEROSENE 2-K	8008-20-6
ACGIH - Occupational Exposure Limits - TWAs	NAPHTHALENE	91-20-3
ACGIH - Short Term Exposure Limits	NAPHTHALENE	91-20-3
ACGIH - Skin Absorption Designation	KEROSENE 2-K	8008-20-6
ACGIH - Skin Absorption Designation	NAPHTHALENE	91-20-3
CAA (Clean Air Act) - HON Rule - Organic HAPs	NAPHTHALENE	91-20-3
CAA (Clean Air Act) - HON Rule - SOCM Chemicals	NAPHTHALENE	91-20-3
CAA - 1990 Hazardous Air Pollutants	NAPHTHALENE	91-20-3
California - Proposition 65 - Carcinogens List	NAPHTHALENE	91-20-3
CERCLA/SARA - Haz Substances and their RQs	NAPHTHALENE	91-20-3
CERCLA/SARA - Section 313 - Emission Reporting	NAPHTHALENE	91-20-3
CWA (Clean Water Act) - Hazardous Substances	NAPHTHALENE	91-20-3
CWA (Clean Water Act) - Priority Pollutants	NAPHTHALENE	91-20-3
CWA (Clean Water Act) - Toxic Pollutants	NAPHTHALENE	91-20-3
IARC - Group 2B (Possibly carcinogenic to humans)	NAPHTHALENE	91-20-3
Inventory - Australia (AICS)	KEROSENE 2-K	8008-20-6
Inventory - Australia (AICS)	NAPHTHALENE	91-20-3
Inventory - Canada - Domestic Substances List	KEROSENE 2-K	8008-20-6

Inventory - Canada - Domestic Substances List	NAPHTHALENE	91-20-3
Inventory - China	KEROSENE 2-K	8008-20-6
Inventory - China	NAPHTHALENE	91-20-3
Inventory - European EINECS Inventory	KEROSENE 2-K	8008-20-6
Inventory - European EINECS Inventory	NAPHTHALENE	91-20-3
Inventory - Japan - (ENCS)	KEROSENE 2-K	8008-20-6
Inventory - Japan - (ENCS)	NAPHTHALENE	91-20-3
Inventory - Korea - Existing and Evaluated	KEROSENE 2-K	8008-20-6
Inventory - Korea - Existing and Evaluated	NAPHTHALENE	91-20-3
Inventory - New Zealand	KEROSENE 2-K	8008-20-6
Inventory - New Zealand	NAPHTHALENE	91-20-3
Inventory - Philippines Inventory (PICCS)	KEROSENE 2-K	8008-20-6
Inventory - Philippines Inventory (PICCS)	NAPHTHALENE	91-20-3
Inventory - TSCA - Sect. 8(b) Inventory	KEROSENE 2-K	8008-20-6
Inventory - TSCA - Sect. 8(b) Inventory	NAPHTHALENE	91-20-3
Massachusetts - Right To Know List	KEROSENE 2-K	8008-20-6
Massachusetts - Right To Know List	NAPHTHALENE	91-20-3
New Jersey - Department of Health RTK List	KEROSENE 2-K	8008-20-6
New Jersey - Department of Health RTK List	NAPHTHALENE	91-20-3
New Jersey - Env Hazardous Substances List	KEROSENE 2-K	8008-20-6
New Jersey - Env Hazardous Substances List	NAPHTHALENE	91-20-3
New Jersey - Special Hazardous Substances	NAPHTHALENE	91-20-3
NTP - Report on Carcinogens - Suspect Carcinogens	NAPHTHALENE	91-20-3
OSHA - Final PELs - Time Weighted Averages	NAPHTHALENE	91-20-3
OSHA - Hazard Communication Carcinogens	NAPHTHALENE	91-20-3
Pennsylvania - RTK (Right to Know) List	KEROSENE 2-K	8008-20-6
Pennsylvania - RTK (Right to Know) List	NAPHTHALENE	91-20-3
Pennsylvania - RTK - Environmental Hazard List	NAPHTHALENE	91-20-3
TSCA - Sect. 12(b) - Export Notification	NAPHTHALENE	91-20-3
TSCA - Section 4 - Chemical Test Rules	NAPHTHALENE	91-20-3
U.S. - DOT - Hazardous Substances and RQs (App A)	NAPHTHALENE	91-20-3

Title III Classifications Sections 311,312:

- Acute: **YES**
- Chronic: **YES**
- Fire: **YES**
- Reactivity: **NO**
- Sudden Release of Pressure: **NO**

15. OTHER INFORMATION

Follow all MSDS/label precautions even after container is emptied because it may retain product residue. Overexposure to naphthalene, a minor component of this product, may cause skin, eye and respiratory tract irritation, anemia, loss of vision, nervous system effects and kidney and thymus damage. Also, exposure to naphthalene has produced "respiratory tract" tumors in laboratory animals.