

----- MATERIAL SAFETY DATA SHEET -----

Ashland

KEROSENE

MANUFACTURER: ASHLAND PETROLEUM COMPANY  
 DIVISION OF ASHLAND INC.  
 P.O. BOX 391  
 ASHLAND, KENTUCKY 41101  
 (606) 329-3333  
 THIS MSDS COMPLIES WITH 29 CFR 1910.1200 (THE HAZARD  
 COMMUNICATION STANDARD)  
 24-HOUR EMERGENCY TELEPHONE: 1-800-ASHLAND OR 1-800-274-  
 5263  
 PRODUCT NAME: Kerosene  
 MSDS NO: 0000584-006.000  
 MSDS ID: 31730

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ATTENTION: The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable and suitable to their circumstances. The MSDS has been prepared in accordance with OSHA's Hazard Communication Standard 29 CFR 1910.1200. The information relates specifically to the product designated and may not be valid when the material is used in combination with other materials or products or in a particular process. NOTE: N.A. indicates the information is not available. Ashland Petroleum Company MSDS are available through CHEMTREC 1-800-424-9300

----- SECTION 1 - IDENTIFICATION -----

PRODUCT AND COMPANY IDENTIFICATION: Aliphatic Hydrocarbon  
 MATERIAL NUMBER: 0000584-006.000  
 DATE OF MSDS: 14-FEB-97  
 MANUFACTURER: ASHLAND PETROLEUM COMPANY  
 ADDRESS: P.O. BOX 391  
 ASHLAND, KY 41114  
 EMERGENCY TELEPHONE: (800) 274-5263  
 INFORMATION TELEPHONE: (606) 329-3333  
 Known Synonyms

Not Applicable

----- SECTION 2 - INGREDIENTS INFORMATION -----

INGREDIENTS	AGENCY	LIMIT	CATEGORY
Kerosene-Compounds listed below are inherent in the product	N.A.	N.A.	N.A.
CAS NO: 8008206			
CONCENTRATION: 100 Wt%			
Biphenyl	ACGIH	.2 ppm	TLV
CAS NO: 92524	8 Hour		
CONCENTRATION: 0.4-1.2 Wt%	NIOSH	100 mgm3	IDLH-1994
	NIOSH	300 mgm3	IDLH-1990
	OSHA	.2 ppm	PEL
	8 Hr	(1971 & 1989)	
Naphthalene	ACGIH	10 ppm	TLV
CAS NO: 91203	8 Hour		
CONCENTRATION: 0.5-1.5 Wt%	ACGIH	15 ppm	STEL
	15 Minute		
	ACGIH	79 mgm3	CEIL
	NIOSH	250 ppm	IDLH-1994
	NIOSH	500 ppm	IDLH-1990
	OSHA	10 ppm	PEL
	8 Hr	(1971 & 1989)	
	OSHA	15 ppm	STEL-1989
	15 Minute		
Xylene (Mixed Isomers)	ACGIH	100 ppm	TLV
CAS NO: 1330207	8 Hour		
CONCENTRATION: 0.5-1.5 Wt%	NIOSH	150 ppm	STEL
	NIOSH	900 ppm	IDLH
	Revised	9/15/96	
	OSHA	100 ppm	PEL
	8 Hour		

For information regarding Carcinogenic Status please see Section 15.

----- SECTION 3 - HAZARDS IDENTIFICATION -----

EMERGENCY OVERVIEW: This product is considered flammable/combustible. It is harmful of fatal if swallowed, causing a serious aspiration hazard. May be irritating to the skin, eyes and respiratory tract. Vapors may cause dizziness or suffocation. Skin cancer hazard based on tests with laboratory animals. Fire may produce irritating or harmful gases. Runoff from fire control or dilution water may cause pollution. This material is a refined petroleum solvent predominantly C9-C16, it possesses a petroleum odor and is a mobile, oily liquid. It is colorless to red in appearance, depending on the amount of blended dye, if any.

ACUTE EXPOSURE INFORMATION:

EYE CONTACT: Exposure causes eye irritation. Symptoms may include stinging, tearing, redness, and swelling. Conjunctivitis may occur.

SKIN CONTACT: Exposure may cause mild skin irritation. Prolonged or repeated exposure may dry the skin. Symptoms may include redness, burning, drying and cracking, and skin burns. Defatting action on skin can lead to irritation and infection.

INHALATION: Exposure to vapors and fumes from this material may cause respiratory irritation. Inhalation may cause symptoms of Central Nervous System (CNS) depression such as headache, giddiness and fatigue. Other symptoms of CNS depression are nausea, loss of coordination and judgement, and coma.

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INGESTION: Swallowing causes gagging, coughing or strangling, followed by gastrointestinal tract irritation with vomiting and diarrhea; the lips may turn cherry red. Fever and pneumonitis are seen frequently. This material can be absorbed from the gastrointestinal tract to produce systemic effects including the above symptoms as well as drowsiness and other signs of central nervous system depression. The symptoms from oral exposure or aspiration can be delayed by several hours. This material can enter the lungs during swallowing or vomiting and cause lung inflammation and/or damage and possibly death.

ROUTE OF EXPOSURE: Inhalation, eye contact, skin contact and absorption, ingestion

CHRONIC EFFECTS: When products of similar composition were tested on laboratory animals, weak to moderately positive results were found in mouse skin cancer studies, mixed and inconsistent results were found in mutagenicity studies, and negative results were found in rat teratology studies.

Symptoms of chronic exposure to this material include headache, neuralgia (nerve pain), memory loss, lowered blood counts, respiratory problems, and polyneuritis (inflammation of nerves).

MEDICAL CONDITIONS AGGRAVATED: Pre-existing eye, skin, respiratory, neurological, liver, or kidney conditions may be aggravated by exposure to this product.

Persons exposed to other petroleum products may be more sensitive.

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SECTION 4 - FIRST AID INFORMATION  
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EYE: Flush with large amounts of water, lifting upper and lower lids occasionally. Remove contact lenses if worn. Get medical attention if irritation continues.

SKIN: Thoroughly wash exposed area with soap and water. Remove contaminated clothing and shoes. Launder contaminated clothing before re-use. Discard shoes if they cannot be cleaned sufficiently.

INHALATION: If affected, move individual to fresh air. If breathing is difficult, administer oxygen. If breathing has stopped give artificial respiration. Keep person warm, quiet and get medical attention.

INGESTION: If swallowed, do not induce vomiting. Aspiration of material into the lungs due to vomiting can cause chemical pneumonia which can be fatal. Keep person warm and quiet and call a poison control center or get medical attention immediately. If spontaneous vomiting occurs, keep head below hips to prevent aspiration. Never give anything by mouth to an unconscious person.

NOTE TO PHYSICIAN: Activated charcoal mixture may be administered. To prepare activated charcoal mixture, suspend 50 grams activated charcoal in 400 mL water and mix thoroughly. Administer 5 ml/kg, or 350 ml for an average adult. Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances. Activated charcoal may be given, but should be used with caution since it may induce vomiting.

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SECTION 5 - FIRE AND EXPLOSION DATA  
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NFPA CODES:

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HEALTH: 1

FLAMMABILITY: 2

REACTIVITY: 0

FIRE AND EXPLOSION HAZARDS:

LEL: 0.7

UEL: 5

Vapors are heavier than air and may travel along the ground or be moved by ventilation and ignited by heat, pilot lights, other flames and ignition sources at locations distant from material handling point. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

EXTINGUISHING MEDIA: Regular foam, carbon dioxide, dry chemical

FIRE FIGHTING MEASURES: Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.

Water or foam may cause frothing which can be violent and possibly endanger the life of the firefighter, especially if sprayed into containers of hot, burning liquid.

DECOMPOSITION PRODUCTS: Carbon dioxide and carbon monoxide, various hydrocarbons, oxides of nitrogen

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SECTION 6 - ACCIDENTAL RELEASE MEASURES  
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SMALL SPILL & LEAK PROTECTION: Absorb liquid on vermiculite, floor absorbent, or other absorbent material and transfer to hood.

LARGE SPILL & LEAK PROTECTION: Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks). Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Stop spill at source. Ventilate area if possible. Prevent liquid from entering drains, sewers, streams or other bodies of water. Prevent from spreading. If runoff occurs, notify authorities as required. If possible, pump or vacuum transfer the spilled liquid product to clean containers for recovery. Absorb unrecoverable product. Transfer contaminated absorbent, soil and other material to containers for disposal. Shovel solid into dry, labeled containers and secure cover.

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SECTION 7 - HANDLING AND STORAGE  
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STORAGE CONDITIONS: Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid and/or solid), all hazard precautions given in the data sheet must be observed.

STORAGE PRECAUTIONS: Store in accordance with National Fire Protection Association recommendations. Store away from oxidizers, heat, sparks and flames. Store in a well ventilated area. Store below 40 C (104 F). Keep container tightly closed.

ADDITIONAL INFORMATION: Do not pipet or siphon this material by mouth.

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SECTION 8 - PERSONAL PROTECTION  
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RESPIRATORY PROTECTION: If workplace exposure limit(s) or product or any component is exceeded (see Section II), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your industrial hygienist). Engineering or administrative controls should be implemented to reduce exposure.

VENTILATION: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

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GLOVES: Wear resistant gloves such as neoprene or nitrile rubber.  
 EYES: Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. Consult your safety representative.  
 OTHER: Avoid all skin contact. To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Liquid  
 PHYSICAL APPEARANCE: Clear or red dyed  
 ODOR: Hydrocarbon  
 BOILING POINT: > 300.00 deg F @ 760.00 mmHg  
 MELTING POINT: N.A.  
 FREEZING POINT: N.A.  
 VAPOR PRESSURE: 0.27-5.0 mmHg @ 77.00 deg F  
 VAPOR DENSITY: 4.0-5.0  
 WATER SOLUBILITY: N.A.  
 MOLECULAR WEIGHT: N.A.  
 SPECIFIC GRAVITY: 0.77-0.83 @ 60.00 F  
 VISCOSITY: N.A.  
 VOLATILE ORGANIC COMPOUND: N.A.  
 % VOLATILE: 100  
 SOLVENT: N.A.  
 SOLIDS: N.A.  
 ASH: N.A.  
 EVAPORATION RATE: .04  
 pH: N.A.  
 CORROSION RATE: N.A.  
 ADDITIONAL PHYSICAL PROPERTY INFORMATION:  
 PROPERTY: Density  
 AMOUNT: 6.40-6.90 @ 60.00 deg F  
 UNITS OF MEASURE: N.A.

SECTION 10 - STABILITY AND REACTIVITY

STABILITY AND REACTIVITY: Stable  
 HAZARDOUS POLYMERIZATION: Cannot occur  
 CONDITIONS TO AVOID: Contact with strong oxidizing agents

SECTION 11 - TOXICOLOGICAL INFORMATION

ORAL LD50:  
 TDLO (ORAL) MAN: 3570 mg; LDLO (oral) human 500 mg/kg  
 INHALATION LC50:  
 LC50 (INHL) RAT: Greater than 5 g/m(3)  
 TOXICITY SUMMARY: Because of the aspiration hazard, this material is in class 3 (may cause irreversible effects which can be fatal) for general toxicity. It is in class C (No data) for reproductive hazard. The actual human reproductive hazard is unknown.  
 This product is not considered to be a human carcinogen. The minimum lethal human exposure to this agent has not been delineated. The maximum tolerated human exposure to this agent has not been delineated. The estimated fatal dose by the oral route is in the range of 1/2 ounce to 4 ounces. Several studies have shown pronounced effects of Fuel Oil #3, a similar product, on the reproductive capacity of birds after application on the shell surface (decreased hatchability, deformed bills, dead embryos).

SECTION 12 - ECOLOGICAL INFORMATION

FISH LC50: 2990 ppm for 24 hours was lethal to freshwater bluegill fish  
 ECOTOX SUMMARY: This material is dangerous to aquatic life in high concentrations and it may be dangerous if it enters water intakes. Notify health and wildlife officials as well as operators of nearby water intakes should a release occur.

BIODEGRADATION: If released to soil, this material is expected to biodegrade under both aerobic and anaerobic conditions. Some components may adsorb very strongly to soil. The material may rapidly volatilize from both moist and dry soil although its expected strong adsorption may significantly attenuate the rate of this process. If released in water, it is expected to biodegrade under both aerobic and anaerobic conditions. Some components may significantly bioconcentrate in fish and aquatic organisms and strongly adsorb to sediment and suspended organic matter.

ACCUMULATION: This material shows no ability to bioconcentrate in the food chain.

SECTION 13 - DISPOSAL CONSIDERATIONS

Dispose of in accordance with all applicable local, state and federal regulations.  
 State and local regulations may be more stringent than federal regulations. By itself, the liquid is expected to be a RCRA ignitable hazardous waste.

SECTION 14 - TRANSPORT INFORMATION

DOT PROPER SHIPPING NAME: Kerosene  
 SYMBOLS: N.A.  
 UN/NA NUMBER: UN1223  
 HAZARD CLASS: 3  
 NOT OTHERWISE SPECIFIED: N.A.  
 EXEMPTION NUMBER: N.A.  
 LIMITED QUANTITY: N  
 REPORTABLE QUANTITY: N.A.  
 AMMO COMPATIBLE GROUP: N.A.  
 COAST GUARD AMMO GROUP: N.A.  
 PACKING GROUP: N.A.  
 EXCEPTIONS: N.A.  
 SPECIAL LABEL: N.A.  
 SPECIAL SHIPPING PROVISIONS: N.A.  
 NON BULK: N.A.  
 BULK: N.A.  
 AIR RAIL MAX: N.A.  
 AIR CARGO MAX: N.A.  
 OTHER STOWAGE: N.A.  
 VESSEL STOWAGE: N.A.  
 INTERNATIONAL TRANSPORT INFORMATION:  
 IMO: N.A.  
 ICAO: N.A.  
 IATA: N.A.  
 TRANSPORT CANADA: N.A.  
 ADR: N.A.  
 RID: N.A.

SECTION 15 - REGULATORY INFORMATION

SARA CODES:  
 FIRE: Yes  
 PRESSURE: No  
 REACTIVE: No  
 ACUTE: Yes  
 CHRONIC: Yes

----- MATERIAL SAFETY DATA SHEET -----

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REGULATORY LISTED COMPONENTS:

Ingredient	Regulatory List Information
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Kerosene-Compounds listed below are inherent in the product	MA RTK Substance List
CARCINOGEN:	
NTP No	
IARC No	
OSHA No	
Biphenyl	Clean Air Act HAP
CARCINOGEN:	Clean Air Act Organic
NTP No	Hazardous Air Pollutant
IARC No	Clean Air Act SOCOMI List
OSHA No	Clean Air Act Volatile Hazardous Air Pollutant
	MA RTK Substance List
	SARA Section 313
	CERCLA Reportable Quantity
	100 lb
Naphthalene	Clean Air Act HAP
CARCINOGEN:	Clean Air Act Organic
NTP No	Hazardous Air Pollutant
IARC No	Clean Air Act SOCOMI List
OSHA No	Clean Air Act Volatile Hazardous Air Pollutant
	MA RTK Substance List
	NJ RTK Hazardous Substance List
	OPA Hazardous Substance 40
	CFR 116.4
	SARA Section 313
	CERCLA Reportable Quantity
	100 lb
	Water Pollution Control Act
	Section 307
Xylene (mixed isomers)	Clean Air Act Class 1 Group 3
CARCINOGEN:	Clean Air Act HAP
NTP No	Clean Air Act Organic
IARC No	Hazardous Air Pollutant
OSHA No	Clean Air Act SOCOMI List
	Clean Air Act Volatile Hazardous Air Pollutant
	MA RTK Substance List
	OPA Hazardous Substance 40
	CFR 116.4
	SARA Section 313
	CERCLA Reportable Quantity
	100 lb

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COMPAS Code: 50230081

----- SECTION 16 - OTHER INFORMATION -----

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information in current, applicable and suitable to their circumstances. The MSDS has been prepared in accordance with OSHA's Hazard Communication Standard 29 CFR 1910.1200. The information related specifically to the product designated and may not be valid when the material is used in combination with other materials or products or in a particular process.