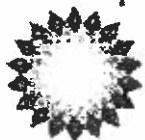


MATERIAL SAFETY DATA SHEET

bp



===== CHEMICAL PRODUCT AND COMPANY IDENTIFICATION =====

TRADE NAME: JET A KEROSENE
CAS NUMBER: 8008-20-6
SYNONYM(S): MIDDLE DISTILLATE; S-408; AK8
MSDS NUMBER: 2606
PRODUCT CODE: P 1825
HIERARCHY: 040.010
MANUFACTURER/SUPPLIER: BP Oil Company
ADDRESS: 200 Public Square, Cleveland, OH 44114-2375
TELEPHONE NUMBERS - 24 HOUR EMERGENCY ASSISTANCE:
BP America: 800-321-8642
CHEMTREC Assistance (In U.S.): 800-424-9300
CHEMTREC Assistance (Elsewhere): 703-527-3887
TELEPHONE NUMBERS - GENERAL ASSISTANCE: (Normal Office Hours):
(8:00-4:30 M-F, EST):
Technical: 216-586-6184
MSDS Contact: 216-586-8023

===== COMPOSITION/INFORMATION ON INGREDIENTS =====

COMPONENT: Kerosine
CAS NO.: 8008-20-6
% BY WT.: 99.9 - 100
EXPOSURE LIMITS:
100 mg/m3 REL NIOSH

===== HAZARDS IDENTIFICATION =====

EMERGENCY OVERVIEW:

Colorless/Straw/Colored Clear Liquid With a Hydrocarbon Odor.
Danger! Harmful or Fatal If Swallowed. Aspiration Hazard If Swallowed--Can Enter Lungs and Cause Damage. May Be Harmful If Inhaled. May Be Irritating To the Skin, Eyes and Respiratory Tract. Skin Cancer Hazard Based on Tests With Laboratory Animals.
Combustible Liquid & Vapor.

POTENTIAL HEALTH EFFECTS:

SKIN:

Repeated or prolonged contact may result in defatting, redness, itching, inflammation, cracking and possible secondary infection. High pressure skin injections are Serious Medical Emergencies. Injury may not appear serious at first; within a few hours, tissue will become swollen, discolored and extremely painful (see Notes to Physician section). Contact with heated material may cause thermal burns.

EYE:

Exposure to vapors, fumes or mists may cause irritation. Contact with heated material may cause thermal burns.

INHALATION:

May cause respiratory tract irritation. Exposure may cause central nervous system symptoms similar to those listed under "Ingestion" (see Ingestion section). Degenerative changes in the liver, kidneys and bone marrow may occur with prolonged, high concentrations. Repeated or prolonged exposures may cause behavioral changes.

INGESTION:

Aspiration into lungs may cause pneumonitis. May cause gastrointestinal disturbances. Symptoms may include irritation, nausea, vomiting and diarrhea. May cause harmful central nervous system effects. Effects may include excitation, euphoria, headache, dizziness, drowsiness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death.

SPECIAL TOXIC EFFECTS:

IARC has determined that Jet Fuel is not classifiable as to its carcinogenicity to humans (Group 3). IARC has determined that occupational exposures in petroleum refining are probably carcinogenic to humans. Warning: The use of any hydrocarbon fuel in an area without adequate ventilation may result in hazardous levels of combustion products and inadequate oxygen levels.

===== FIRST AID MEASURES =====

SKIN:

Remove contaminated clothing immediately. Wash area of contact thoroughly with soap and water. Get medical attention if irritation persists. High pressure skin injections are serious medical emergencies. Get immediate medical attention. Thermal burns require immediate medical attention.

EYE:

Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation results. Thermal burns require immediate medical attention.

INHALATION:

Remove affected person from source of exposure. If not breathing, ensure clear airway and institute cardiopulmonary resuscitation (CPR). If breathing is difficult, administer oxygen if available. After administration of oxygen, continue to monitor closely. Get medical attention.

INGESTION:

Do not induce vomiting because of danger of aspirating liquid into lungs. Get immediate medical attention. If spontaneous vomiting occurs, monitor for breathing difficulty.

NOTES TO PHYSICIAN:

In case of ingestion, gastric lavage with activated charcoal can be used promptly to prevent absorption. Consideration should be given to the use of an endotracheal tube, to prevent aspiration. Individuals intoxicated by middle distillates should be hospitalized immediately, with acute and continuing attention to neurologic and cardiopulmonary function. Positive pressure ventilation may be necessary. After the initial episode, individuals should be followed for changes in blood variables and the delayed appearance of pulmonary edema and chemical pneumonitis. Such patients should be followed for several days or weeks for delayed effects, including bone marrow toxicity, hepatic and renal impairment. Individuals with chronic pulmonary disease will be more seriously impaired, and recovery from inhalation exposure may be complicated. Avoid emesis unless a large amount has been ingested or it contains a toxic additive. Gastric lavage after endotracheal intubation should be reserved for a patient who requires GI decontamination and is lethargic or obtunded. Safe use of activated charcoal and cathartic should be considered if ingested. Mineral oil cathartics should not be given to patients. Saline cathartics or sorbitol is preferable. In case of skin injection, prompt debridement of the wound is necessary to minimize necrosis and tissue loss.

===== FIREFIGHTING MEASURES =====

FLASH POINT: > 37.7778 C (100 F)
AUTOIGNITION TEMPERATURE: 210 C (410 F)
FLAMMABILITY LIMITS IN AIR (% BY VOL.) LOWER: > 0.7
FLAMMABILITY LIMITS IN AIR (% BY VOL.) UPPER: < 5

HAZARDOUS COMBUSTION PRODUCTS:

Combustion may produce CO, CO2 and reactive hydrocarbons.

BASIC FIRE FIGHTING PROCEDURES:

Use water spray, dry chemical, foam or carbon dioxide to extinguish fire. Use water spray to cool fire-exposed containers, structures and

drainage systems. Exposed firefighters must wear MSHA/NIOSH approved positive pressure self-contained breathing apparatus with full face mask and full protective clothing.

UNUSUAL FIRE & EXPLOSION HAZARDS:

Dangerous when exposed to heat or flame. Containers may explode in heat of fire. Runoff to sewer may cause fire or explosion hazard. Irritating and/or toxic substances may be emitted upon thermal decomposition.

===== ACCIDENTAL RELEASE MEASURES =====

If your facility or operation has an "Oil or Hazardous Substance Contingency Plan", activate its procedures. Take immediate steps to stop and contain the spill. Caution should be exercised regarding personnel safety and exposure to the spilled material. For technical advice and assistance related to chemicals, contact CHEMTREC (800/424-9300) and your local fire department. Notify the National Response Center, if required. Also notify appropriate state and local regulatory agencies, the LEPC and the SERC. Contact the local Coast Guard if the release is into a waterway. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. (Also see Personal Protection Information section.) Isolate for 1/2 mile in all directions if tank, rail car or tank truck is involved in fire.

Shut off ignition sources; no flares, smoking or flames in hazard area. Stop leak if you can do it without risk. Water spray may reduce vapor; but it may not prevent ignition in closed spaces. Small Spills: Take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large Spills: Dike far ahead of liquid spill for later disposal.

When reporting a spill to the National Response Center or the Coast Guard, you may need to supply the Coast Guard Chemical Hazard Response Information System (CHRIS) code:

Group Number: 33

CHRIS Code: JPO

Additional spill related information may be found in the U.S. Coast Guard Chemical Hazard Response Information System (CHRIS) Manual.

During an accidental release, personal protection equipment may be required (see Section EXPOSURE CONTROLS/PERSONAL PROTECTION). Additional regulatory requirements may apply (see Section REGULATORY INFORMATION).

===== HANDLING AND STORAGE =====

HANDLING:

Use non-sparking tools. Ground lines and equipment used during transfer to reduce the possibility of static spark-initiated fire or explosion. Do not siphon this product by mouth. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Remove contaminated clothing and clean

before reuse. Wash thoroughly after work using soap and water.

Empty containers may contain toxic, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose containers unless adequate precautions are taken against these hazards.

STORAGE:

Store in tightly closed containers in cool, dry, isolated, well-ventilated area away from heat, sources of ignition and incompatibles.

===== EXPOSURE CONTROLS / PERSONAL PROTECTION =====

ENGINEERING CONTROLS:

Ventilation and other forms of engineering controls are often the preferred means for controlling chemical exposures.

PERSONAL PROTECTION EQUIPMENT (PPE):

EYE PROTECTION:

Avoid eye contact with this material. Wear chemical safety goggles. Provide an eyewash station immediately accessible to the work area.

SKIN PROTECTION:

Avoid skin contact. When working with this substance, wear appropriate chemical protective gloves. Depending upon conditions of use, additional protection may be necessary such as face shield, apron, armcovers, etc.

RESPIRATORY PROTECTION:

If exposure limits are exceeded or if irritation is experienced, NIOSH approved respiratory protection should be worn. Respiratory protection may be needed for non-routine or emergency situations.

See Section COMPOSITION/INFORMATION ON INGREDIENTS For Exposure Guidelines.

===== PHYSICAL AND CHEMICAL PROPERTIES =====

BOILING POINT:	148.9 C (300.02 F)
SP. GRAVITY (Water=1):	0.825 @ 15.56 C (60.008 F)
MELTING POINT:	NA
% VOLATILE:	100
VAPOR PRESSURE:	0.4 MM HG @ 20 C (68 F)
EVAPORATION RATE:	Slower
VAPOR DENSITY (Air=1):	4.7
VISCOSITY:	1.3 - 2.2 CST @ 37.8 C (100.04 F)
% SOLUBILITY IN WATER:	Negligible
POUR POINT:	ND
pH:	ND
BULK DENSITY:	ND
MOLECULAR WEIGHT:	NA

MOLECULAR FORMULA:

Mixture

ODOR/APPEARANCE:

Colorless/Straw/Colored Clear Liquid With a Hydrocarbon Odor.

===== STABILITY AND REACTIVITY =====

STABILITY/INCOMPATIBILITY:

Stable. Avoid contact with strong oxidizers.

===== TOXICOLOGICAL INFORMATION =====

EYE EFFECTS:

Slightly Irritating. Rabbit Draize = 2.0/110.

SKIN EFFECTS:

Practically Non-Toxic (Acute Exposure). Rabbit dermal LD50 = >5 ml/kg.
Moderately To Severely Irritating. Rabbit dermal PSI = 5.5.

ACUTE ORAL EFFECTS:

Moderately Toxic (Acute Exposure). Human oral LDLo = ~10 mls. Rat
oral LD50 = > 5 g/kg.

ACUTE INHALATION EFFECTS:

Practically Non-Toxic (Acute Exposure). Rat 4-hour LC50 = > 5 mg/L.

SENSITIZATION:

Based on the results obtained in a guinea pig dermal sensitization
test, this product is not considered to be a skin sensitizer.

CHRONIC EFFECTS / CARCINOGENICITY:

Results from a lifetime chronic skin painting study indicate that
skin tumors may be formed with repeated and prolonged skin contact.

MUTAGENICITY:

This component was tested in a variety of mutagenicity assays and
the results were generally negative. However, this product was
positive in a Mouse Lymphoma Assay. This material has been shown to
induce a genetic change in a bacterial test system (Modified Ames).

===== DISPOSAL CONSIDERATIONS =====

WASTE DISPOSAL (Resource Conservation & Recovery Act - RCRA):

This material, when discarded or disposed of, is a characteristic
hazardous waste according to Federal regulations (40 CFR 261). This
material exhibits the characteristic of ignitable and is assigned the
EPA Hazardous Waste Number of D001. The discarding or disposal of
this material must be done at a properly permitted facility in
accordance with the regulations of 40 CFR 262, 263, 264, and 268.

Additionally, the discarding or disposal of this material may be further regulated by state, regional, or local regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate, or otherwise inappropriate. The transportation, storage, treatment and disposal of this waste material must be conducted in compliance with all applicable Federal, state, and local regulations.

There may be specific current regulations at the local, regional, or state level that pertain to this information. Chemical additions, processing, or otherwise altering this material may make the waste management information presented in this MSDS, incomplete, inaccurate, or otherwise inappropriate.

===== TRANSPORT INFORMATION =====

U.S. DEPARTMENT OF TRANSPORTATION (D.O.T.):

Proper Shipping Name (49 CFR 172.101): Fuel, Aviation, Turbine
Engine
Hazard Class (49 CFR 172.101): 3
UN/NA Code (49 CFR 172.101): UN 1863
Packing Group (49 CFR 179.101): PG III
Bill Of Lading Desc. (49 CFR 172.101): Fuel, Aviation, Turbine
Engine, 3, UN 1863, PG III
Labels Required (49 CFR 172.101): Flammable Liquid
Placards Required (49 CFR 172.101): Flammable

INTERNATIONAL AND DOMESTIC AIR TRANSPORTATION:

IATA Proper Shipping Name: Fuel, Aviation, Turbine
Engine
Hazard Class: 3
Subsidiary Risk: None
UN Code: UN 1863
Package Specification: 309, 4309, 310
Labels Required: Flammable Liquid, Orientation
Arrows (For 310,
Include Cargo Aircraft Only)

INTERNATIONAL WATER TRANSPORTATION:

IMDG Proper Shipping Name: Fuel, Aviation, Turbine
Engine
Hazard Class: 3.2
UN Code: UN 1863
IMDG Page Number: 3271
Labels Required: Flammable Liquid, Orientation
Arrows
Placards Required: Flammable

CANADIAN TRANSPORTATION OF DANGEROUS GOODS (T.D.G.):

Shipping Name: Fuel, Aviation, Turbine

PIN (UN/NA): Engine
Regulated Class: UN 1863
Division: 3
Packaging Group: NA
Labels Required: PG III
Flammable Liquid, Orientation
Arrows
Placards Required: Flammable

===== REGULATORY INFORMATION =====

NOTIFICATION:

Any spill or release, or substantial threat of release, of this material to navigable water (virtually any surface water) sufficient to cause a visible sheen upon the water must be reported immediately to the National Response Center (800/424-8802), as required by U.S. Federal Law. Failure to report may result in substantial civil and criminal penalties. Also contact the Coast Guard and appropriate state and local regulatory agencies.

US EPA TOXIC SUBSTANCE CONTROL ACT (TSCA):

All components of this product are listed on the TSCA inventory.

US EPA SUPERFUND AMENDMENTS & REAUTHORIZATION ACT (SARA) TITLE III INFORMATION:

Listed below are the hazard categories for SARA Section 311/312 (40 CFR 370):

Immediate Hazard:	X
Delayed Hazard:	X
Fire Hazard:	X
Pressure Hazard:	-
Reactivity Hazard:	-

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA):

All components of this product are listed on the Canadian DSL Inventory.

CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) CATEGORIES:

The following WHMIS categories apply to this product:

Compressed Gas:	-	Other Toxic Effects:	X
Flammable/Combustible:	X	Bio Hazardous:	-
Oxidizer:	-	Corrosive:	-
Acutely Toxic:	X	Dangerously Reactive:	-

===== OTHER INFORMATION =====

NFPA RATINGS:

Health:	0
Flammability:	2
Reactivity:	0

HMIS RATINGS:

Health:	0
Flammability:	2
Reactivity:	0

Special Hazards:

-

Personal Protective Equipment:H

REVISION DATE:

08-apr-1999

REPLACES SHEET DATED:

03-nov-1998

COMPLETED BY:

BP OIL HSEQ DEPARTMENT

REVISION SUMMARY: The following section(s) have been revised since the previous issue of this MSDS:

TRANSPORT INFORMATION

NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Material Safety Data Sheet. However, no warranty or representation, express or implied, is made as to the accuracy or completeness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. In addition, no responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

ND: No Data NA: Not Applicable

*See specific note or section