

# MATERIAL SAFETY DATA SHEET

KEROSENE

MSDS No.  
**APPC339 Ver. 10**  
Rev. Date  
**12/31/2002**

**IMPORTANT:** Read this MSDS before handling and disposing of this product and pass this information on to employees, customers, and users of this product.

## 1. PRODUCT and COMPANY IDENTIFICATION

<b>Material Identity</b>	Kerosene	
<b>Trade Name(s)</b>	Kerosene	
<b>Other Name(s)</b>	ASTM NO. 2-K Grade Kerosene (D-3699), Fuel Oil No. 1, Regular Grade Kerosene, Stove Oil, Illuminating Oil, Kerosene, ARCO Diesel #1, Heating Oil #1, Absorption Oil	
<b>Chemical Description</b>	This material is an organic petroleum liquid. This is a complex C8 to C18 hydrocarbon mixture which under normal conditions contains less than 0.35 wt. % sulfur compounds	
<b>Manufacturer's Address</b>	BP Amoco West Coast Products LLC Carson Business Unit 1801 E. Sepulveda Boulevard Carson, California 90749-6210	BP Amoco West Coast Products LLC Cherry Point Business Unit 4519 Grandview Road Blaine, Washington 98230
<b>Telephone Numbers</b>	Emergency Health Information: Emergency Spill Information: Other Product Information	1 (800) 447-8735 1 (800) 424-9300 CHEMTREC (USA) 1 (866) 4BP-MSDS (866-427-6737 Toll Free – North America email: <a href="mailto:bpcares@bp.com">bpcares@bp.com</a>

## 2. COMPONENTS and EXPOSURE LIMITS

<u>Component<sup>1</sup></u>	<u>CAS No.</u>	<u>% Composition By Volume<sup>2</sup></u>	<u>Exposure Limits</u>		<u>Units</u>	<u>Type</u>
			<u>ACGIH TLV</u>	<u>OSHA PEL<sup>3</sup></u>		
HYDROCARBONS WITH A BOILING RANGE OF 291°F TO 572°F	8008-20-6	EQ 100	N/AP	N/AP		
Which Contains:						
NAPHTHALENE	91-20-3	0.5 to1	15 10	15 10	ppm ppm	STEL TWA
Other applicable exposure guidelines:						
STODDARD SOLVENT	8052-41-3		100	100	ppm	TWA

Since specific exposure standards/control limits have not been established for this material, the exposure limits shown in Section 2 are suggested as exposure control guidelines.

<sup>1</sup> Carcinogen displayed after Component Name. Listed by <sup>(1)</sup> NTP, <sup>(2)</sup> IARC, <sup>(3)</sup> OSHA, <sup>(4)</sup> Other

<sup>2</sup> See Abbreviations on last page

<sup>3</sup> The OSHA exposure limits were changed in 1993 due to a federal court ruling. ARCO has chosen to list the 1989 OSHA exposure limits in this document as they are generally more stringent and therefore more protective than the current exposure limits. (Refer to 29 CFR 1910.1000).

## 3. HAZARD IDENTIFICATION

### IMMEDIATE HAZARDS

**COMBUSTIBLE! OSHA/NFPA Class II combustible liquid.** Keep away from heat, sparks and open flame. Avoid the "switch loading" hazard. (See Section 7)

**ASPIRATION HAZARD!** If swallowed, do not induce vomiting since aspiration into the lungs may cause chemical pneumonia. Obtain prompt medical attention.

May cause irritation or more serious skin disorders! May be harmful if inhaled! Avoid prolonged or repeated liquid, mist, and vapor contact with eyes, skin, and respiratory tract.

May cause irritation of the nose, throat, and lungs, headache, dizziness, drowsiness, confusion, loss of coordination, fatigue, nausea and labored breathing. May lead to unconsciousness, convulsions, and possibly death.

Wash hands thoroughly after handling.

## **ACUTE HEALTH HAZARDS**

### **Routes of Exposure**

### **Signs and Symptoms**

<b>Inhalation (Primary)</b>	Exposures at airborne concentrations well above the recommended exposure limits in Section 2 may cause irritation of the nose, throat, and lungs, headache, dizziness, drowsiness, confusion, loss of coordination, fatigue, nausea, labored breathing and irregular heartbeats. May lead to unconsciousness, convulsions, and possibly death. Airborne concentrations above the recommended exposure limits are not anticipated during normal workplace or refueling activities due to the slow evaporation of this material at ambient temperatures.
<b>Eye Contact</b>	Not expected to cause prolonged or significant eye irritation.
<b>Skin Contact</b>	Moderate skin irritation may occur upon short-term exposure.
<b>Ingestion</b>	ASPIRATION HAZARD! This material can enter the lungs during swallowing or vomiting and may cause acute lung inflammation and damage which in severe cases may be fatal. May cause irritation of the mouth, throat, and gastrointestinal tract leading to nausea, vomiting, diarrhea, and restlessness. May cause headache, dizziness, drowsiness, confusion, loss of coordination, fatigue, nausea and labored breathing. May lead to unconsciousness, convulsions, and possibly death.

### **Summary of Chronic Hazards and Special Health Effects**

Exposures at airborne concentrations well above the recommended exposure limits in Section 2 may aggravate medical conditions such as skin disorders or chronic respiratory diseases.

Prolonged/repeated skin exposure, inhalation or ingestion of this material above the recommended limits may result in adverse dermal or systemic effects. Avoid prolonged or repeated overexposure.

See Section 11 for additional toxicology information.

## **4. EMERGENCY and FIRST AID**

<b>Inhalation</b>	Immediately remove personnel to area of fresh air. For respiratory distress, give oxygen, rescue breathing or administer CPR (cardiopulmonary resuscitation), if necessary. Obtain prompt medical attention.
<b>Eye Contact</b>	Flush with clean low-pressure water for at least 15 minutes, occasionally lifting the eye lids. Obtain medical attention.
<b>Skin Contact</b>	Immediately remove contaminated clothing. Wash affected skin thoroughly with soap and water. If there are any signs or symptoms of irritation, obtain medical attention.
<b>Ingestion</b>	Do not induce vomiting since aspiration into the lungs may cause chemical pneumonia. Obtain immediate medical attention.

<b>Emergency Medical Treatment Procedures</b>	See above procedures.
---	-----------------------

## **5. FIRE and EXPLOSION**

<b>Flash Point (Method) *</b> (See "Fire and Explosion Hazards")	AP 100° to 140°F (D-56)	<b>NFPA Hazard Rating:</b> <b>Health:</b> 0 = Insignificant <b>Fire:</b> 2 = Moderate <b>Reactivity:</b> 0 = Insignificant <b>Special:</b> = ---
<b>Autoignition Temperature (Method)</b>	AP 410°F <sup>+</sup>	
<b>Flammable Limits (% Vol. in Air)</b>	AP 0.7 <sup>+</sup>	
<b>Lower</b>	AP 5.0 <sup>+</sup>	
<b>Upper</b>	Based on NFPA "Fuel Oil No. 1"	

\* At Normal Atmospheric Temperature and Pressure

**Fire and Explosion Hazards** COMBUSTIBLE! When heated above the flash point, this material will release flammable vapors which can burn in the open or be explosive in confined spaces if exposed to an ignition source. Mists or sprays may be flammable at temperatures below the normal flash point. For "switch loading" procedures, see Section 7.

**Extinguishing Media** Foam, Dry chemical, Water fog, Carbon dioxide (CO<sub>2</sub>)  
Water and water spray may cool the fire, but may not extinguish the fire.

**Special Firefighting Procedures** For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of combustion products and oxygen deficiencies. If firefighters cannot work upwind to the fire, respiratory protection must be worn. Cool tanks and containers exposed to fire with water.

## 6. ACCIDENTAL RELEASE MEASURES

**Precautions if Material is Spilled or Released** Eliminate all potential sources of ignition. Handling equipment and tools should be grounded to prevent sparking. Contain spill, evacuate non-essential personnel, and safely stop flow. Blanket spill with foam or use water fog to reduce vapor cloud. On hard surfaces, spilled material may create a slipping hazard. Equip cleanup crews with proper protective equipment (as specified in Section 8) and advise of hazards. Clean up by recovering as much spilled or contaminated materials as possible and placing into closed containers. Consult with an environmental professional for the federal, state and local cleanup and reporting requirements for spills and releases.

## 7. HANDLING and STORAGE

**Handling, Storage and Decontamination Procedures** Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when this material is loaded into tanks previously containing gasoline or other low flash point products (see API Publication 2003).  
Avoid exposure to liquid and gas vapors. Odor is not a reliable warning of overexposure. Use only with adequate ventilation.  
Keep away from sources of heat, flames, sparks or other ignition sources. Storage and use areas should be "No Smoking" areas.  
Electrical equipment should follow National Electric Code (NEC) standards.  
Empty containers may retain some liquid and vapor residues and, if exposed to an ignition source, may explode.  
Outside or detached storage is preferred. Inside storage should be in a standard combustible liquids storage warehouse, room or cabinet. Separate from oxidizing materials.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls** Where possible, use adequate ventilation to keep vapor and mist concentrations of this material below the occupational exposure limits in Section 2.

**Respiratory** A NIOSH/MSHA-approved air-purifying respirator with an organic vapor cartridge may be appropriate under certain circumstances where airborne concentrations may exceed the exposure limits in Section 2. Where work conditions may generate airborne mists of the material, also use a high-efficiency particulate pre-filter. Consult a health and safety professional for guidance in respirator selection. Respirator use should comply with OSHA 29 CFR 1910.134.

**CAUTION:** The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of the air-purifying respirator.

**Eyes** Eye protection should be worn. If there is potential for splashing or spraying, chemical protective goggles and/or a face shield should be worn. If contact lenses are worn, consult an eye specialist or a safety professional for additional precautions. Suitable eye wash water should be available in case of eye contact with this material.

<b>Skin</b>	Avoid skin contact with this material. If conditions of use present any potential for skin contact, clean and impervious clothing such as gloves, apron, boots, and facial protection should be worn. Nitrile or Viton protective clothing materials are recommended. When working around equipment or processes which may create the potential for skin contact, full body coverage should consist of impervious boots and oil-resistant coated Tyvek suit or other impervious jacket and pants.  Non-impervious clothing which accidentally becomes contaminated with this material should be removed promptly and not reworn until the clothing is washed thoroughly and the contamination is effectively removed. Discard soaked leather goods. Avoid prolonged and/or repeated skin contact.
<b>Other Hygienic and Work Practices</b>	Use good personal hygiene practices. If skin contact should occur, material should be removed from the skin with a waterless hand cleaner, and the affected area should then be washed with a mild soap and water. Wash hands and other exposed areas thoroughly before eating, drinking, smoking or using toilet facilities.

## 9. PHYSICAL and CHEMICAL PROPERTIES

<b>Boiling Point:</b>	AP 291°F to 572°F
<b>Viscosity Units, Temp. (Method):</b>	AP 2 CST at 100°F (D-445)
<b>Dry Point:</b>	N/P
<b>Freezing Point:</b>	AP -40°F
<b>Vapor Pressure, Temp. (Method):</b>	LT 0.1 at 100°F (REID-PSIA)
<b>Volatile Characteristics:</b>	Slight
<b>Specific Gravity (H<sub>2</sub>O = 1 @ 39.2°F):</b>	AP 0.81
<b>Vapor Sp. Gr. (Air = 1.0 @ 60°F - 90°F):</b>	AP 6
<b>Solubility in Water:</b>	Negligible
<b>PH:</b>	N/AP
<b>Appearance and Odor:</b>	Nearly colorless to light amber colored liquid; kerosene odor.
<b>Other Physical and Chemical Properties:</b>	Sulfur Content = LT 0.35 wt% viscosity -4F = LT 8 centistokes

## 10. STABILITY and REACTIVITY

<b>Stability</b>	Stable
<b>Hazardous Polymerization</b>	Not expected to occur
<b>Other Chemical Reactivity</b>	N/P

<b>Conditions to Avoid</b>	Heat and ignition sources.
<b>Materials to Avoid</b>	Strong acids, alkalis, and oxidizers such as liquid chlorine and oxygen.
<b>Hazardous or Decomposition Products</b>	Burning or excessive heating may produce carbon monoxide and other harmful gases/vapors including oxides of sulfur and nitrogen.

## 11. TOXICOLOGICAL INFORMATION

<b>Supplemental Toxicology Information</b>	The information found in this section is written for medical, toxicology, occupational health and safety professionals. This section provides technical information on the toxicity testing of this or similar materials or its components. If clarification of the technical content is needed, consult a professional in the areas of expertise listed above.
--	---

<b>Inhalation</b>	Toxicity studies on this material resulted in LC50 values greater than 6 mg/l indicating a low potency. However, during exposure the material caused labored breathing, reduced activity and nasal discharge.
<b>Eye Contact</b>	Animal studies have been performed on this material with minimal to no irritation being reported. Ten-minute exposures to diesel oil aerosols (166 ppm) have been reported to be non-irritating in humans.
<b>Skin Contact</b>	Animal studies with this material have resulted in moderate skin irritation following short term exposure or prolonged/repeated exposure. This material appears to be non-sensitizing. The acute dermal toxicity tests indicate LD50 values greater than 2.0 g/kg indicating a low potency.
<b>Ingestion</b>	The acute oral toxicity tests on this material indicate LD50 values greater than 5.0 g/kg indicating a low potency. In young children, ingested diesel fuel produced symptoms of cough, dyspnea (labored breathing), pneumonia, tachycardia (rapid heart beat), somnolence (drowsiness), cardiac dilation, vomiting, fever and breath and vomitus of a characteristic odor. Aspiration can result in a fatal chemical pneumonia.
<b>Prolonged/ Repeated Exposures</b>	Twenty-eight day dermal toxicity studies with this material resulted in skin irritation and body weight loss but no systemic tissue changes characteristics of disease. This product contains petroleum distillates similar to those shown to produce skin tumors and kidney damage in laboratory animals.
<b>Additional Information on Diesel Exhaust Toxicity</b>	. Exposure to diesel exhaust may result in reversible symptoms, such as respiratory tract irritation (wheezing, chest tightness), mucous membrane irritation, central nervous system effects (headache and light-headedness), nausea, vomiting and heartburn. Lifetime exposure to whole diesel exhaust has been shown to produce lung tumors in laboratory animals. The exact relationship between these findings and possible human effects is not known.
<b>Additional Information on Naphthalene Toxicity</b>	Naphthalene has been evaluated for carcinogenicity in laboratory rodents in studies sponsored by the National Toxicology Program (NTP). Results of these studies show some evidence of carcinogenic activity in female mice, and clear evidence of carcinogenic activity in male and female rats. Tumors were observed in the lung of female mice and in the nose of rats. Nonneoplastic lesions of the nose and respiratory tract were also observed in these studies. The International Agency for Research on Cancer has designated naphthalene as "possibly carcinogenic to humans" (Group 2B). Naphthalene has been reported to cause developmental toxicity in mice after oral exposure to relatively high dose levels, but developmental toxicity was not observed in NTP sponsored studies in rats and rabbits. Ingestion or inhalation of naphthalene can result in hemolysis and other blood abnormalities, and individuals (and infants) deficient in glucose-6-phosphatase dehydrogenase may be especially susceptible to these effects. Inhalation of naphthalene may cause headache and nausea. Airborne exposure can result in eye irritation. Naphthalene exposure has been associated with cataracts in animals and humans

## 12. ECOLOGICAL INFORMATION

Not Available

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Consult environmental professionals to determine if state or federal regulations would classify spilled or contaminated materials as a hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Comply with all federal, state and local laws pertaining to waste management.

## 14. TRANSPORT INFORMATION

<b>UN Proper Shipping Name</b>	Kerosene
<b>UN Hazard Class</b>	3
<b>UN Number</b>	UN1223
<b>UN Packing Group</b>	PGIII

---

## 15. REGULATORY INFORMATION

---

### SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA), TITLE III

#### Section 311/312 Hazard Categories:

Immediate (acute) health hazard  
 Delayed (chronic) health hazard  
 Fire hazard

#### Section 313:

This product contains the following chemicals subject to the reporting requirements established by SARA TITLE III

NAPHTHALENE 0.5 to 1 percent by weight

#### TOXIC SUBSTANCES CONTROL ACT (TSCA)

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

#### COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT (CERCLA)

This material is covered by CERCLA's PETROLEUM EXEMPTION.  
 (Refer to 40 CFR 307.14)

#### CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 - PROPOSITION 65

Chemicals known to the State to cause cancer, birth defects or other reproductive harm are found in gasoline, crude oil, and many other petroleum products and their vapors, or result from their use. Read and follow label directions and use care when handling or using all petroleum products.

#### WARNING:

This product contains the following chemical(s) listed by the state of California as known to cause cancer or birth defects or other reproductive harm.

NAPHTHALENE <sup>(C)</sup>

Other Proposition 65 chemicals will result under certain conditions from the use of this material. For example, burning fuels produces combustion products including carbon monoxide, a Proposition 65 reproductive toxin.

<sup>(C)</sup> = Carcinogen

---

## 16. OTHER INFORMATION

---

#### General Comments

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the mixture itself.

Abbreviations:	EQ = Equal	AP = Approximately	N/P = No Applicable Information Found
	LT = Less Than	UK = Unknown	N/AP = Not Applicable
	GT = Greater Than	TR = Trace	N/DA = No Data Available

Prepared by: Product Stewardship

#### Disclaimer of Liability

The information in this MSDS was obtained from sources which we believe are reliable. **HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.**

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. **FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.**

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.