



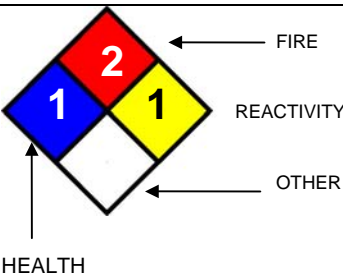
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An Axel Johnson, Inc. Company

MATERIAL SAFETY DATA SHEET

KEROSENE
(Dyed & Undyed)

Revised 2/98; 10/12/00; 07/22/02; 06/05
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SECTION 1 - MATERIAL IDENTIFICATION		24 HOUR EMERGENCY INFORMATION	
PRODUCT / CHEMICAL NAME	KEROSENE	Sprague: 603-431-1000 Chemtrec: 800-424-9300	
PRODUCT / CHEMICAL SYNONYMS	KEROSENE KEROSENE-TAX EXEMPT-LOW SULFUR #1 DIESEL FUEL-TAXABLE-LOW SULFUR K-1	HMIS / NFPA HAZARD RATING	
CHEMICAL FAMILY / FORMULA	ALIPHATIC AND AROMATIC HYDROCARBONS / VARIABLE	4=EXTREME 3=SERIOUS 2=MODERATE 1=SLIGHT 0=MINIMAL	
MATERIAL USE OR OCCURRENCE			

SECTION 2 - INGREDIENTS						
COMPONENT	%	C.A.S. NO.	OSHA PEL	OSHA STEL	ACGIH TLV	OTHER
KEROSENE A complex mixture of petroleum hydrocarbons (may contain fused polycyclic hydrocarbons as benzene solubles).	>99	08-008-206	5 mg/M ³ (mineral oil mist)		5 mg/M ³	
Polycyclic Hydrocarbons	<1	08-007-452	0.2 mg/M ³		0.2 mg/M ³	

(benzene solubles as coal tar pitch volatiles).

SECTION 3 - PHYSICAL DATA			
BOILING POINT:	350°-550°F (177°-288°C)	% VOLATILITY BY VOLUME:	Greater than 50%
VAPOR PRESSURE (mm Hg):	1	VAPOR DENSITY (AIR = 1):	6
SPECIFIC GRAVITY (H2O = 1):	0.80 @15°C	SOLUBILITY IN WATER:	Slight
EVAPORATION RATE (n-butyl acetate = 1): None Determined.			
APPEARANCE & ODOR: Colorless, liquid. Fuel oil odor.			

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA	
FLASH POINT: 123°F (51°C) (Tag. Closed Cup)	AUTOIGNITION TEMP: 410 °F (210°C)
FLAMMABILITY LIMITS IN AIR (% BY VOL.)	LEL: 0.7 UEL: 5.0
EXTINGUISHING MEDIUM: Foam, carbon dioxide, dry chemical, halon, and water fog.	
SPECIAL FIRE FIGHTING PROCEDURES: Use supplied-air breathing equipment for enclosed areas. Cool exposed containers with water spray. Continue water spray until entire container contents are cool. Withdraw immediately in case of rising sound from venting safety devices or any discoloration of storage tank due to fire (subject to the fire chief's directions).	
UNUSUAL FIRE AND EXPLOSION HAZARDS: Do not mix or store with strong oxidants. Do not store or pour near sources of ignition. Do not pressurize, cut, heat, weld, or expose to sources of ignition. Vapors are heavier than air and may travel a considerable distance to a source of ignition and flash back.	

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SECTION 5 - HEALTH DATA

TOXICOLOGICAL TEST DATA:	No data available	RESULTS
	ACUTE HEALTH EFFECTS	CHRONIC HEALTH EFFECTS
INHALATION	Central nervous system depressant. May cause headaches and irritation to the nose, throat, and lungs.	No data available
INGESTION	May cause irritation and burning of the gastrointestinal tract (mouth, throat, and stomach). May cause nausea, vomiting, diarrhea, and restlessness.	No data available
SKIN CONTACT	May cause irritation, drying, and cracking of the skin. May cause dermatitis.	Dermatitis
EYE CONTACT	Irritation of the eye	No data available

FIRST AID



PROCEDURES

INHALATION: Remove from vapor to fresh air. If breathing has stopped give artificial respiration. Maintain airway and blood pressure and administer oxygen if available. Keep affected person warm and at rest. Qualified personnel should perform administration of oxygen. Get medical attention immediately.

INGESTION: **DO NOT INDUCE VOMITING or give anything by mouth to an unconscious person.** When vomiting occurs, keep persons head lower than head to prevent pulmonary aspiration. Get medical attention immediately.

SKIN CONTACT: **Remove** jet fuel soaked clothing. Wash affected area with soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). If irritation develops, seek medical aid.

EYE CONTACT: **Flush** eyes immediately with large amounts of water, occasionally lifting upper and lower lids until no evidence of chemical remains (approximately 15-20 minutes). If irritation develops, seek medical aid.

TOXICOLOGICAL DATA

Kerosene generally contains benzene which has been designated a carcinogen by the National Toxicology Program (NTP), the International agency for Research on Cancer and the Occupational Safety and Health Administration. Benzene may produce blood changes that include reduced platelets, red blood cells, and white blood cells; also aplastic anemia, and acute nonlymphatic leukemia. Benzene has produced fetal death in laboratory animals and caused chromosome changes in humans and mutation changes in cells of other organisms. Health effects attributable to benzene aren't known to occur in humans exposed to kerosene. Kerosene has caused kidney injury in male rats only. No comparable health hazard for kidney disease is known to occur in humans. An epidemiological study of workers exposed to two isomers of trimethylbenzene had symptoms of nervousness, tension and anxiety, and asthmatic bronchitis. In addition, after inhalation of 60 ppm measured as hydrocarbon vapor, the works' peripheral blood showed a tendency to hypochromic anemia and a deviation from normal in the coagulability of the blood. Exposure of pregnant rats during gestation to toluene at levels of 250 ppm and higher produces some maternal toxicity and feto toxicity. A lifetime inhalation study in rats did not show any toxic effects even at the high dose of 300 ppm. Behavioral signs of hearing loss were observed in rats exposed to toluene sub chronically at levels of 1000 ppm or more. Comparable effects have not been reported in humans.



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SECTION 6 - REACTIVITY DATA

STABILITY:	Stable under normal temperatures and pressures.
HAZARDOUS POLYMERIZATION:	Hazardous polymerization has not been known to occur under normal temperatures and pressures.
CONDITIONS TO AVOID:	May be ignited by heat, sparks, or flame. Vapors may travel to a source of ignition and flash back. Vapor explosion hazard indoors, outdoors, or in sewers.
INCOMPATIBLES:	May explode or react violently when exposed to oxidizing materials.
TYPICAL DECOMPOSITION PRODUCTS:	Carbon monoxide, oxides of nitrogen, and hydrocarbons.

SECTION 7 - SPECIAL PROTECTION

RESPIRATORY PROTECTION:	Use with adequate ventilation. For large spills or when completing work in confined spaces, use a mask with an organic vapor cartridge or positive pressure air supplied (SCBA) unit.
VENTILATION LOCAL EXHAUST: MECHANICAL (General):	Indoors: Lab hood recommended. Outdoors: Work upwind. Recommended for use in enclosed or semi-enclosed work areas.
EYE PROTECTION:	Splash goggles or shields with safety glasses
PROTECTIVE GLOVES:	Neoprene, PVC
OTHER PROTECTIVE CLOTHING OR EQUIPMENT:	Employee must wear appropriate impervious clothing and equipment to prevent repeated or prolonged skin contact with this substance.

SECTION 8 - SPECIAL PRECAUTIONS

PRECAUTIONS FOR SAFE HANDLING AND STORAGE:	Avoid excessive inhalation or skin contact. Isolate from sources of ignition.
SPILL AND LEAK PROCEDURES:	Shut off ignition sources (no smoking, shut off flames or flares in hazard area). Isolate hazard area and restrict entry. If properly trained, proceed with the following measures: 1. For small spills, take up with sand or other absorbent material and place into containers for later disposal; and, 2. For large spills, dike far ahead of spill to prevent entrance into watercourses and/or ground water. Observe local, state, and federal governmental regulations.
WASTE DISPOSAL METHOD	1. Under EPA RCRA (40 CFR 261.21) If this product becomes a waste material intended for disposal and has a flash point below 140 F, it would be ignitable hazardous waste (waste code number D001). Refer to latest EPA or state regulations regarding proper disposal. 2. Under EPA RCRA (40 CFR 261.21) If this product becomes a waste material intended for disposal and has a TCLP benzene concentration greater than 0.5 PPM, it would be considered a toxic waste (waste code number D018). Refer to latest EPA or state regulations regarding proper disposal.

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SECTION 9 - DOT HAZARDOUS MATERIAL INFORMATION

PROPER SHIPPING NAME: FUEL, AVIATION, TURBINE ENGINE		LABEL: FLAMMABLE LIQUID	REQUIRED PLACARDING: FLAMMABLE / 1863
HAZARD CLASS: CLASS 3 (Flammable liquid)	PACKING GROUP (P.G.): III	N.A./U.N. NUMBER: UN 1863	
HAZARDOUS SUBSTANCE / RQ: NOT AVAILABLE		SHIPPING DESCRIPTION: FUEL, AVIATION, TURBINE ENGINE, 3 (Flammable liquid), UN 1863, PG III	
NOTE: This product may be reclassified as a combustible liquid when shipped domestically, by land only. If reclassified as a combustible liquid, this product is unregulated by DOT when shipped in non-bulk quantities.			

SECTION 10 - EPA SARA TITLE III INFORMATION

SECTION 311/312 HAZARD CLASSIFICATION:	ACUTE: YES	CHRONIC: YES	
	FIRE: YES	PRESSURE: NO	REACTIVE: NO

SECTION 11 - REMARKS

None

SECTION 12 - ADDITIONAL REGULATORY DATA

REPORTABLE COMPONENTS: FEDERAL EPA	%	SARA RQ	CERCLA RQ	RCRA NO.
KEROSENE	100	-----	-----	
* Under EPA RCRA (40 CFR 261.21) If this product becomes a waste material intended for disposal and has a flash point below 140 F, it would be considered ignitable hazardous waste (waste code number D001) with a SARA / CERCLA RQ of 100 pounds.				D001*
** Under EPA RCRA (40 CFR 261.21), if this product becomes a waste material intended for disposal and has a TCLP benzene concentration greater than 0.5 PPM, it would be considered a toxic waste (waste code number D018) with a SARA / CERCLA RQ of 10 pounds.				D018**

The information contained herein is based on data available at this time and is believed to be accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Since information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar, no responsibility is assumed for the results of its use. The person receiving this information shall make his own determination of the suitability of the material for his particular purposes.