SINCLAIR
MATERIAL SAFETY DATA SHEET
SINCLAIR JP-8, JET A, TURBINE FUEL, AVIATION FUEL MSDS NO. 62

---

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME Jet fuel

DESCRIPTION: Jet Fuel is a complex blend of paraffinic, olefinic, naphthenic and aromatic hydrocarbons

CHEMICAL FAMILY: Liquid Hydrocarbon

SYNONYMS: Jet Fuel, Commercial Jet Fuel, Jet A, Turbine Fuel, Aviation Fuel, JP-8

EMERGENCY TELEPHONE: CHEMTREC - (800) 424-9300 or (703) 527-3887 (collect)

SUPPLIER:
Sinclair Oil Corporation
P. O. Box 30825
Salt Lake City, Utah 84130

TELEPHONE: (888) 340-3466
FAX: (801) 524-2740

2. COMPOSITION, INFORMATION ON INGREDIENTS

CAS Registry Number(s): 50854-94-9, 8008-20-6

COMPOSITION	Typical wt. %	CAS Registry #
Xylene	0.9	01330-20-7
Benzene	0.9	00071-43-2
Cyclohexane	3.5	00110-82-7
Naphthalene	0.5	91-20-3
Toluene	0.8	108-88-3

COMPONENTS:	**OSHA**			**ACGIH**		
	TWA	**STEL**	**CEILING**	**TWA**	**STEL**	**UNIT**
Xylene	100			100	150	ppm
Toluene	200		300			ppm
Naphthalene	10			10	15	ppm
Benzene	10*					ppm
Cyclohexane	300			300		-ppm

* Applies to industry segments exempt from the 1 ppm 8 hour TWA and 5 ppm STEL of the Benzene Standard at 29 CFR 1910.1028.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:
Colorless liquid with a kerosene odor. Can cause irritation to the eyes, skin and respiratory tract.

POTENTIAL HEALTH EFFECTS:
Trauma and burns secondary to explosions and fires can result. In enclosed spaces, oxygen may be displaced by vapors or consumed by combustion. Incomplete combustion will produce carbon monoxide and other toxic gases.

INHALATION:
Overexposure may cause weakness, headache, nausea, confusion, blurred vision, drowsiness and other central nervous system effects. Extremely high-level exposure may result in dizziness, irregular heartbeat, coma, collapse and death.

EYE CONTACT:
Contact may cause eye irritation. Naphthalene vapor causes eye irritation.

SKIN CONTACT:
Contact may irritate or burn skin. Absorption through the skin may cause symptoms of intoxication.

INGESTION:
Based on acute toxicity studies in animals, Jet Fuel is practically non-toxic by ingestion. If aspirated (liquid enters lung) following ingestion, severe lung irritation and pulmonary edema (swelling of lung tissue) may occur. Aspiration may also result in central nervous system depression or excitement. Serious, permanent lung damage may result. Nausea, vomiting, diarrhea and abdominal pain may occur following ingestion

4. FIRST AID MEASURES

INHALATION:
Remove from further exposure. If unconsciousness occurs, seek immediate medical assistance. If breathing stops, use mouth-to-mouth resuscitation.

EYE CONTACT:
Flush immediately with water for at least 15 minutes. Seek medical attention promptly.

SKIN CONTACT:
Wash contact areas with soap and water. Launder contaminated clothing before reuse. Discard contaminated leather articles.

INGESTION: **DO NOT Induce Vomiting.** Get Medical Assistance Promptly.

5. FIRE FIGHTING MEASURES

Flashpoint and Method:	110 -130 F (Closed Cup)		
Flammable Limits:	LEL 0.6	UEL	5.6
Auto Ignition Temperature:	440 - 560º F		

GENERAL HAZARD:
Incomplete burning can produce carbon monoxide. Vapors will be released above the flash point and when mixed with air, the mixture can burn or explode in confined spaces, if exposed to sources of ignition.

5. FIRE FIGHTING MEASURES CONTINUED

FIRE FIGHTING INSTRUCTIONS:
Use foam, dry chemical, CO2, water fog or vaporizing liquid (Halon). Keep personnel removed from and upwind of fire. Cool adjacent structures and storage drums with water spray. Prevent runoff from fire control dilution entering streams or drinking water supply. Run off may create fire and/or explosion hazard in sewers.

FIRE FIGHTING EQUIPMENT:
Use of SCBA in enclosed or confined spaces, or as other wise needed (Bunker gear).

HAZARDOUS COMBUSTION PRODUCTS:
May produce carbon monoxide.

6. ACCIDENTAL RELEASE MEASURES

LAND SPILL:
Treat spill as an oil spill. Eliminate all sources of ignition. Remove leaking containers to a safe area. Contain and remove by mechanical means. Guard against contamination of water supplies. Spilled material, made solid by using an inert substance, may be scraped up from the ground. Report spills to appropriate authorities. Dispose of in accordance with Federal, State, and local regulations.

WATER SPILL:
Treat spill as an oil spill. Spill may be removed from water with boom and vacuuming equipment. Report spills to appropriate authorities. Dispose of in accordance with Federal, State and local regulations.

7. HANDLING AND STORAGE

Note: Make sure Tanker is grounded before loading.

GENERAL:
Ground and bond all transfer and storage equipment. Drums must be grounded/bonded/equipped with self-closing valves, pressure vacuum bungs and flame arrestors. Do not use as a cleaner or solvent. Do not siphon by mouth. Store away from ignition sources in a cool area. Containers should be labeled: FLAMMABLE – VAPOR HARMFUL. When handling, use non-sparking tools and equipment.

8. ENGINEERING CONTROLS, RESPIRATORY & PERSONAL PROTECTION

ENGINEERING CONTROLS:
Provide ventilation sufficient to prevent exceeding recommended exposure limit or build-up of explosive concentrations of vapor in air. Use explosion-proof equipment. Use away from all ignition sources.

PERSONAL PROTECTION: RESPIRATOR:
Approved respiratory protection must be used when vapor or mist concentrations are unknown or exceed the TLV. Avoid prolonged or repeated breathing of vapor or mists.

PROTECTIVE CLOTHING:
Use full face shield, chemical goggles, impervious gloves and boots.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE:	Liquid, Colorless
SPECIFIC GRAVITY (g/ml):	0.77-0.84
VAPOR DENSITY (air=1):	4.5
VAPOR PRESSURE:	<1 PSIA
BOILING POINT/RANGE:	360 ºF
SOLUBILITY IN WATER:	
PH:	**N/A**
FREEZING POINT:	-40º F

10. STABILITY AND REACTIVITY

GENERAL:
This product is stable.

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID:
Strong acids, alkalies and oxidizers. Also avoid heat, sparks, flame and static electricity.

HAZARDOUS DECOMPOSITION:
Incomplete burning can produce carbon monoxide.

11. TOXICOLOGICAL INFORMATION

SYSTEMIC:

Petroleum-derived fuels and fuel oils are complex and variable mixtures of hydrocarbons. In general, the more viscous the mixture, the less toxic it will be. At high level exposures, humans experience multiple organ failures, some of which may be due to hypoxia and secondary to the failure of other organ systems. In humans kidney failure has been noted only at high, acute levels of exposures and appears reversible. Liver enzymes may be transiently elevated. At lower level exposures, most acute health effects are reversible. Inhalation, ingestion and dermal contact can expose people. Frequently, people are exposed by combined dermal and inhalation exposure.

ACUTE:

Inhalation: Headaches, confusion, disorientation, blurred vision occur with inhalation. Higher exposures may cause hallucinations, CNS excitation, drowsiness, CNS depression. Seizure and coma occur from very high exposures and death may result from respiratory depression. ECG changes, cardiac arrhythmias, tachycardia. shock and cardiovascular collapse can occur. Pneumonia, pulmonary edema and hemorrhages can occur.

Coordination and concentration deficits have been reported in humans after one hour of exposure. Fatigue, depressed mood, lack of initiative and sleep disturbances have been reported in factory workers. Attention and sensorimotor speed were impaired and EEG changes were noted. Workers may complain of palpitations and heaviness in the chest.

11. TOXICOLOGICAL INFORMATION CONTINUED

Ingestion: Central nervous system, cardiovascular and respiratory effects have been reported with acute exposures to various hydrocarbon fuels and oils similar to those reported with inhalation. Nausea, vomiting, cramping and diarrhea may occur.

Eye: Conjunctivitis and burning, watery eyes have been reported in acute exposures to various hydrocarbon fuels and oils.

Skin: Mild erythema to full thickness chemical burns have occurred after prolonged exposure to various hydrocarbon fuels and oils.

High levels of skin exposure resulted in death of animals.

CHRONIC:

Chronic exposure results in kidney damage in male rats. However, this damage appears to be related to a protein produced in large amounts in male rats, but not in humans or female rats. Occupational exposures in petroleum refining are considered Group 2A (probably carcinogenic) by IARC.

Napthalene, a component of Jet Fuel, can cause hemolytic anemia, especially in those with a deficiency of Glucose-6 phosphate dehydrogenase (G6PD). Catacracts and other ocular effects have been reported after oral ingestions.

12. DISPOSAL CONSIDERATIONS

RCRA: Disposal of this product or material contaminated with this material may be regulated under RCRA due to the characteristic of ignitability.

EPA Hazard Class: Acute Hazard/Chronic Hazard/Fire Hazard

Dispose of in accordance with Federal, State, and Local regulations.

13.TRANSPORT INFORMATION

DOT (Department of Transportation):

PROPER SHIPPING NAME:	Fuel, Aviation, Turbine Engine (Jet-A), (JP-8)
HAZARD CLASS:	3
IDENTIFICATION NUMBER:	UN 1863 PG III
NAERG96 NUMBER	128

14. REGULATORY INFORMATION

CERCLA (Comprehensive Environmental Response Compensation. and Liability Act): Naphthalene and Toluene are hazardous substances under RCRA and therefore are
subject to emergency notification requirements.

SARA TITLE III (Suoerfund Amendments and Reauthorization Act): Naphthalene and Toluene are subject to SARA Title III, Sections 311 and 312, which require MSDS reporting and Hazardous Chemical Inventory reporting. Naphthalene and Toluene are also subject to SARA Title III, Section 313, which requires Chemical Release reporting.

Health -0 Flammability -2 Reactivity -0
(O=insignificant, 1 =slight, 2= moderate, 3=high, 4=extreme)

15. DISCLAIMER

DISCLAIMER:

THIS PRODUCT MATERIAL SAFETY DATA SHEET PROVIDES HEALTH AND SAFETY INFORMATION. THE PRODUCT SHOULD BE USED IN APPLICATIONS CONSISTENT WITH THIS PRODUCT LITERATURE. FOR ANY OTHER USES, EXPOSURES SHOULD BE EVALUATED SO THAT APPROPRIATE HANDLING PRACTICES AND TRAINING PROGRAMS CAN BE ESTABLISHED TO ENSURE SAFE WORKPLACE OPERATIONS.

THIS MATERIAL SAFETY DATA SHEET IS PROVIDED IN GOOD FAITH AND MEETS THE REQUIREMENTS OF THE HAZARDOUS COMMUNICATION PROVISIONS OF SARA TITLE III AND 29CFR1910.1200(g) OF THE OSHA REGULATIONS. THE ABOVE INFORMATION IS BASED ON REVIEW OF AVAILABLE INFORMATION SINCLAIR BELIEVES IS RELIABLE AND IS SUPPLIED FOR INFORMATIONAL PURPOSES ONLY. SINCLAIR DOES NOT GUARANTEE ITS COMPLETENESS OR ACCURACY. SINCE CONDITIONS OF USE ARE OUTSIDE THE CONTROL OF SINCLAIR, SINCLAIR DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, AND ANY LIABILITY FOR DAMAGE OR INJURY WHICH RESULTS FROM THE USE OF THE ABOVE DATA. NOTHING HEREIN IS INTENDED TO PERMIT INFRINGEMENT OF VALID PATENTS AND LICENSES.

DATE:	**July 2004**
SUPERCEDES:	**May 2003**