



MATERIAL SAFETY DATA SHEET

MSDS # 61-AS4

SINCLAIR HEAVY FUEL OIL

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: Heavy Fuel Oil

APPLICATIONS: Fuel in boilers and heaters

SYNONYMS: Slurry, No. 5 Fuel Oil, decant, Low Sulfur No. 6, High Sulfur No. 6, No. 6 Fuel Oil

CAS REGISTRY #: 64741-62-4

CHEMICAL FAMILY: Hydrocarbon Mixture

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

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

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

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENTS:	CAS#	Typical wt.%
Cracked Heavy Oil	64741-62-4	Up to 99
No. 2 Diesel	68476-34-6	0-10
Flux	68512-62-9	0-50
Napthalene	91-20-3	0-2

3. HAZARDS IDENTIFICATION

APPEARANCE: Thick Dark Brown Oil

PHYSICAL STATE: Liquid

ODOR: Strong Hydrocarbon

EMERGENCY OVERVIEW: Can cause Eye and Skin Irritation. Avoid prolonged contact with eyes, skin, and clothing.

POTENTIAL HEALTH EFFECTS

INHALATION: None expected under normal conditions, use with adequate ventilation

EYE CONTACT: May cause eye irritation.

SKIN CONTACT: Repeated skin contact with components of this material may cause harmful effects.

INGESTION: Based on animal testing, the oral acute toxicity is presumed to be slight to moderate.

4. FIRST AID MEASURES

INHALATION: Remove to fresh air. Get medical attention if breathing becomes difficult or respiratory irritation persists. If breathing stops, use resuscitation measures

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. Seek medical assistance promptly.

5. FIRE FIGHTING MEASURES

FLASH POINT (°F): 150 °F

FLAMMABLE LIMITS: LEL – 1% UEL – 5%

AUTOIGNITION TEMPERATURE: 765°F

FLAMMABILITY CLASSIFICATION: Flammable Liquid

GENERAL HAZARD: Incomplete burning can produce carbon monoxide. Water or foam may cause frothing, which can be violent and endanger fire fighters, especially if sprayed into containers of hot liquids.

FIRE FIGHTING INSTRUCTIONS: Keep personnel removed from and up-wind of fire. Use CO₂, foam, dry chemical, Halon, or water fog. Cool adjacent structures and storage drums with water spray. Evacuate area. Prevent runoff from fire control dilution from entering streams or drinking water supply.

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

Hazardous Decomposition Products: May produce carbon monoxide with incomplete burning.

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. Solidified asphalt can be scraped up from the ground using mechanical dredges or lifts. Runoff may create fire or explosion hazard in sewers. Report spills to appropriate authorities. Dispose of in accordance with Federal, State, and Local regulations.

WATER SPILL: Solidified asphalt may be removed from water with mechanical dredges or lifts. Runoff may create fire or explosion hazard in sewers. Report spills to appropriate authorities. Dispose of in accordance with Federal, State, and Local regulations. Avoid breathing the vapors.

7. HANDLING AND STORAGE

HANDLING / STORAGE: Store away from ignition sources in a cool area. When material is heated to application temperatures, precautions should be taken to prevent thermal burns.

8. EXPOSURE CONTROLS, RESPIRATORY & PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide ventilation sufficient to prevent exceeding recommended exposure limits

PERSONAL PROTECTION:

PROTECTIVE CLOTHING: Use whole body protection, including impervious gloves, boots. Eye and face protection is recommended when contact with material may occur.

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.

OCUPATIONAL EXPOSURE LIMITS

COMPONENT	LIMIT	TWA	STEL	CEILING	NOTATION	OTHER
Asphalt Vapors	OSHA PEL	0.5mg/M ³			A4	
Napthalene	OSHA PEL	10 ppm				

A1= Confirmed Human Carcinogen
A3= Confirmed Animal Carcinogen with Unknown Relevance to Humans
A4= Not Classified as a Human Carcinogen
CNS= Central Nervous System
Skin= Absorption through the skin may contribute to overall exposure

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE: Liquid

COLOR: Brown

DENSITY/SPECIFIC GRAVITY (g/ml): 0.9 – 1.1

VAPOR DENSITY (air=1): Greater than 1

VAPOR PRESSURE: NA

BOILING POINT/RANGE: 600 °F

SOLUBILITY IN WATER: No

VISCOSITY: N/A/F

pH : N/A

FREEZING POINT: NA

10. STABILITY AND REACTIVITY

GENERAL: This product is stable

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID: Avoid Strong oxidizers, acids and alkalis

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. People can be exposed by inhalation, ingestion and dermal contact. Frequently, people are exposed by combined dermal and inhalation exposure.

ACUTE: Heavy fuel oil is less acutely toxic than other petroleum derived fuels.

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.

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.

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.

12. DISPOSAL INFORMATION

RCRA: Disposal of this product or material contaminated with product may be regulated by 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: Hot Fuel Oil

HAZARD CLASS: 3

IDENTIFICATION NUMBER: UN 1993 PG III

NAERG96 NUMBER: 128

14. REGULATORY INFORMATION

CERCLA (Comprehensive Environmental Response Compensation and Liability Act): Naphthalene is a hazardous substance under CERCLA and therefore subject to emergency notification requirements.

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

15. OTHER INFORMATION

NFPA 704/HMIS:

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

REVISION SUMMARY:

Complete review of MSDS, December 2005.

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.

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DATE: December 2005