

MSDS - Material Safety Data Sheet

Product Name: LOW SULFUR FUEL OIL #1

MSDS No.: SER14

I. Basic Information:

Manufacturer: Silver Eagle Refining, Woods Cross Inc.

Address: P.O. Box 870298, 2355 South 1100 West

City, ST Zip: Woods Cross, UT 84087

Emergency Contact: Kerry Carroll

Emergency Telephone Number: 801-556-6494

Contact: Kerry B. Carroll/Blaine Zwahlen

Information Telephone Number: 801-298-3211

Last Update: 03/03/1995

Expiration Date:

Chemical State: Liquid Gas Solid

Chemical Type: Pure Mixture



0	Health
2	Flammability
0	Reactivity
Pers. Protection	

II. Ingredients:

Trade Secret

CAS No.	Chemical Name	% Range	EHS		IARC		SARA		OSHA PEL	ACGIH TLV	Other Limits
			NTP		SUB Z	313					
64742810	Hydrodesulfurized kerosene										
64742478	Hydrotreated distillate, light										
8008206	Kerosene										
91203	Naphthalene						X	10 PPM			

III. Hazardous Identification:

Hazard Category:

Acute
 Chronic
 Fire
 Pressure
 Reactive

Hazardous Identification Information:

NO INFORMATION AVAILABLE

IV. First Aid Measures:

Route(s) of Entry:

Eyes, nose, mouth, skin

Health Hazards (Acute and Chronic):

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Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Mild to moderate skin irritant. Contact may cause redness, itching, burning, and skin damage.

Prolonged or repeated contact may cause drying and cracking of the skin, dermatitis (inflammation), burns, and severe skin damage. Not acutely toxic by skin absorption, but prolonged or repeated skin contact may be harmful (see Section 11).

Inhalation (Breathing): Expected to have a low degree of toxicity by inhalation.

Ingestion (Swallowing): Low degree of toxicity by ingestion. ASPIRATION HAZARD - This material can enter lungs during swallowing or vomiting and cause lung inflammation and damage.

Cancer: Skin cancer hazard (see Sections 11 and 15).

Target Organs: Inadequate data available for this material.

Developmental: Inadequate evidence available for this material. See Section 11 for developmental toxicity information of individual components, if any.

Other Comments: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage (sometimes referred to as Solvent or Painters' Syndrome). Intentional misuse by deliberately concentrating and inhaling this material may be harmful or fatal.

Signs and Symptoms:

Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, nausea, vomiting, transient excitation followed by signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue) and pneumonitis (inflammation of the lungs).

Medical Conditions Generally Aggravated by Exposure:

Conditions aggravated by exposure may include skin disorders and respiratory (asthma-like) disorders.

Inhalation of high concentrations of vapors may cause unconsciousness, coma, and in extreme cases, death; at lower concentrations, dizziness mental confusion, and slurred speech may result. Ingestion or aspiration of liquid can cause chemical pneumonitis and pulmonary edema. Local: Irritating to skin, conjunctiva, and mucous membranes. Dermatitis may result from repeated and prolonged exposure to liquid.

Emergency and First Aid Procedures:

Skin: irritating; remove contaminated clothing, flush with water; Eyes: flush with water; Ingestion: if swallowed, do not induce vomiting; immediately contact a physician. Aspiration: If severe, enforced bed rest; administer oxygen; call doctor. Ingestion: do not induce vomiting; call doctor. Eyes and Skin: use soap and water on; flush eyes with plenty of water; call doctor.

Other Health Warnings:

V. Fire Fighting Measures:

Flash Point: <110 F

Lower Explosive Limit:

Upper Explosive Limit:

F.P. Method: PMCC

Fire Extinguishing Media: Dry chemical foam or carbon dioxide

Special Fire Fighting Procedures:

Evacuate the area; use NIOSH approved breathing apparatus; water may be ineffective for extinguishing flames, but may be used to cool exposed equipment or tanks.

Unusual Fire and Explosion:

Flowing kerosene can be ignited by self-generated static electricity; all containers should be grounded.

VI. Accidental Release Measures:

Steps to be Taken in Case Material is Released or Spilled:

Evacuate the area; wear protective equipment; stop discharge; isolate mechanically (sand dikes, etc.) if possible; prevent entry into water sources; if possible absorb with dry, inert material and transfer to drums for disposal. Comply with all EPA, Hazardous Waste, and Community Right-to-Know reporting regulations.

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VII. Handling and Storage:

Precautions to be Taken:

Store in a cool, well ventilated area, away from ignition sources. Provide careful protection against leaks and spills. All liquid transfers should be handled through grounded equipment.

Other Precautions:

None

VIII. Exposure Controls/Personal Protection:

Ventilation Requirements:

The composition of kerosene is so varied that a single Federal standard for all types is not possible. Store in a well ventilated, cool area away from ignition sources.

Personal Protective Equipment:

EYES: Use goggles or face shield in heavy exposure.

RESPIRATORY: For concentrations exceeding the recommended TLV or PEL, use NIOSH approved air purifying respirator. For areas of unknown concentration or to enter a storage tank, use a self-contained oxygen supply.

GLOVES: Impervious nitrile rubber.

IX. Physical and Chemical Properties:

Boiling Point: 314-482 F

Melting Point:

Evaporation Rate (Butyl Acetate = 1): >1

Vapor Pressure (mm Hg.): 0.5 psi

Specific Gravity (H2O = 1):

Vapor Density (AIR = 1): >1

Solubility In Water: Insoluble

Appearance and Odor: Colorless watery liquid - Kerosene

Other Information:

X. Stability and Reactivity:

Stability:

Stable

Incompatibility (Materials to Avoid):

Conditions To Avoid: Avoid all possible sources of ignition (see Sections 5 and 7).

Materials to Avoid (Incompatible Materials):

When kerosenes and jet fuels escape into the environment due to leaks or spills, most of their constituent hydrocarbons will evaporate and be photodegraded by reaction with hydroxyl radicals in

Avoid contact with strong oxidants

such as liquid chlorine, concentrated oxygen, sodium hypochlorite, calcium hypochlorite, etc.

Decomposition/By Products:

Carbon monoxide and carbon dioxide can cause asphyxiation.

Hazardous Polymerization:

Will not occur.

XI. Toxicological Information:

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Hydrodesulfurized Kerosene ..C9-16 (CAS# 64742-81-0)

Carcinogenicity: Application of hydrodesulfurized kerosene to mouse skin, twice a week for 12 months, resulted in an increased incidence of skin tumors. It has not been identified as a carcinogen by NTP, IARC or OSHA.

Developmental: Hydrodesulfurized kerosene applied to the skin of female rats at 494, 330, or 165 mg/kg daily for 7 consecutive weeks (pre-mating, mating, and gestation), or for 8 consecutive weeks in males did not result in systemic, reproductive, or developmental toxicity.

Hydrotreated Distillate, Light ..C9-16 (CAS# 64742-47-8)

Application of a similar material, hydrodesulfurized kerosene, to mouse skin, twice a week for 12 months resulted in an increased incidence of skin tumors. This material has not been identified as a carcinogen by NTP, IARC or OSHA.

Kerosene ..C9-16 (CAS# 8008-20-6)

Application of kerosene to mouse skin, twice a week for 12 months, resulted in an increased incidence of skin tumors. It has not been identified as a carcinogen by NTP, IARC or OSHA.

Naphthalene (CAS# 91-20-3)

Carcinogenicity: Naphthalene has been evaluated in two year inhalation studies in both rats and mice. The National Toxicology Program (NTP) concluded that there is clear evidence of carcinogenicity in male and female rats based on increased incidences of respiratory epithelial adenomas and olfactory epithelial neuroblastomas of the nose. NTP found some evidence of carcinogenicity in female mice (alveolar adenomas) and no evidence of carcinogenicity in male mice. Naphthalene has been identified as a carcinogen by IARC.

Acute Data:

Hydrotreated Distillate Light (as Kerosene):

Dermal LS50=>2g/kg (Rabbit)

LC50>5mg/L (4-hr., Rat)

Oral LD50> 5g/kg (Rat)

Kerosene:

Dermal LD50>2,000 mg/kg (Rabbit)

LC50>5,000 ppm (4-hr., Rat)

Oral LD50: >5 g/kg (Rat), = 28 ml/kg (Rabbit), = 20 ml/kg (Guinea Pig)

XII. Ecological Information:

When kerosenes and jet fuels escape into the environment due to leaks or spills, most of their constituent hydrocarbons will evaporate and be photodegraded by reaction with hydroxyl radicals in the atmosphere. The half-lives in air for many of the individual hydrocarbons is less than one day. Less volatile hydrocarbons can persist in the aqueous environment for longer periods. They remain floating on the surface of the water; those that reach soil or sediment biodegrade relatively slowly. Soil contaminated with jet fuel can develop adapted microbial species able to use the fuel as a carbon source; soil aeration and nutrient supplementation can enhance this biodegradation.

Reported LC50/EC50 values for water-soluble fractions of kerosenes and jet fuels are usually in the range of 10 to 100 mg/liter.

Adverse effects on the gills, pseudobranch, kidney and nasal mucosa have been reported in fish involved in spills of jet fuel.

Juvenile clams may be particularly sensitive to marine sediments contaminated as a result of spilled jet fuel. Direct toxicity and fouling of sea birds from jet fuel can occur if birds dive through floating layers of spilled fuel.

Phytotoxic effects of jet fuel have been reported following exposure of plants to sprays or vapors.

Lack of seed germination and inhibition of seedling growth may also occur. There is evidence for moderate bioaccumulation of the water-soluble hydrocarbons present in jet fuels.

XIII. Disposal Considerations:

Recycle as much as possible; dispose of remainder according to EPA and/or local regulations. This product is classified as a RCRA hazardous waste.

XIV. Transport Information:

DOT Shipping Description: Diesel fuel,3 or Combustible liquid*,NA1993,III

Non-Bulk Package Label: Flammable or None*

Bulk Package Placard/Marking: Flammable/1993

Hazardous Substance/RQ; None

Packaging References; 49 CFR 173.150, 173.203, 173.242

Emergency Response Guide: 128

Note: *This product may be reclassified as a combustible liquid when shipped domestically or by rail or highway. If reclassified as a combustible liquid, this product is not regulated by DOT when shipped in non-bulk packages.

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XV. Regulatory Information:

Acute Health:yes

Chronic Health:yes

Fire Hazard:yes

Pressure Hazard:no

Reactive Hazard:no

SARA 313 and 40 CFR 372:

This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

Component; Naphthalene

CAS Number; 91-20-3

Weight %; 0-4.3

California Proposition 65:

Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

Component	Effect
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Benzene	Cancer, Developmental and Reproductive Toxicant
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Naphthalene	Cancer
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Toluene	Developmental Toxicant
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Carcinogen Identification: This material has not been identified as a carcinogen by NTP, IARC, or OSHA. See Section 11 for carcinogenicity information of individual components, if any.

EPA (CERCLA) Reportable Quantity: none

Canada - Domestic Substances List: Listed

WHMIS Class:

B2-Flammable Liquid

D2B-Materials causing other toxic effects - Toxic Material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

XVI. Other Information:

Issue Date: 01/01/03

Previous Issue Date: 10/18/00

Product Code: 3501, 3511, 3554, 4195

Revised Sections: 1, 9, 11, 16

MSDS Number: 736215

Component CAS Number Weight %

Naphthalene 91-20-3 0-4.3

SARA 313 and 40 CFR 372:

This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

Component Effect

Warning: This material contains the following chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

Benzene	Cancer, Developmental and Reproductive Toxicant
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Naphthalene	Cancer
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Toluene	Developmental Toxicant
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EPA (CERCLA) Reportable Quantity:

--None--

California Proposition 65:

Carcinogen Identification:

Canada - Domestic Substances List:

WHMIS Class:

(MSDS: 736215)

This material has not been identified as a carcinogen by NTP, IARC, or OSHA. See Section 11 for carcinogenicity information of individual components, if any.

Listed

Status: Final