

MATERIAL SAFETY DATA SHEET
FUEL OIL

SECTION 1 – IDENTITY INFORMATION

U.S. Energy Resources, LLC
20300 Mt. Elliott St
Detroit, MI 48234

PRODUCT IDENTIFIER: US-100-ER:
Family / Chemical Name: Hydrocarbon
PRODUCT USAGE: Fuel oil used in boilers or furnaces.

SECTION 2 – HAZARDOUS INGREDIENTS

SPECIFIC CHEMICAL NAME: Fuel Oil
PERCENT: 100%
CAS REGISTRY: 68476-33-5
HAZARD: Toxic Material; Combustible Liquid

SECTION 3 – PHYSICAL DATA

PHYSICAL STATE: Liquid
APPEARANCE AND ODOR: Black petroleum with a characteristic odor.
ODOR THRESHOLD: Not determined.
BOILING POINT: Wide range, >149°C (300°F)
FREEZING POINT: Not applicable
EVAPORATION RATE: Slow at room temperature. Approximately 1000x slower than ethyl ether.
PERCENT VOLATILE: Negligible.
VAPOR DENSITY: Not determined. Heavier than air.
VAPOR PRESSURE: At 25°C, $<1 \times 10^{-3}$ mm Hg estimate from similar product.
SOLUBILITY IN WATER: At 20°C, insoluble.
PH: Not determined.
SPECIFIC GRAVITY: Approximately 0.84 – 0.86 @ 15.5°C (60°F) ($H_2O = 1$)
COEFFICIENT OF WATER / OIL DISTRIBUTION: Not determined.

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SECTION 4 – FIRE EXPLOSION HAZARD DATA

FLASH POINT: 99°C (210°F) minimum. Cleveland Open Cup.

FIRE POINT: Not determined; Estimated to be 10 – 20 C° (18 – 36 F°) higher than flash point.

CONDITIONS OF FLAMMABILITY: Must be heated to sustain flames.

FLAMMABLE LIMITS IN AIR – LOWER: Not determined (1% typical for petroleum product mists).

EXTINGUISHING MEDIA: Carbon Dioxide, Foam, Dry Chemical, Water, Spray.

Water jets or foam cause frothing and cause material to spread.

FIRE FIGHTING PROCEDURES – SPECIAL: Use self – contained breathing apparatus.

Keep storage tanks cool using water spray.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Decomposition and combustion products may be toxic. Heated tanks and drums may rupture, explode or be thrown into the air.

HAZARDOUS COMBUSTION PRODUCTS: Thermal decomposition and burning may produce carbon monoxide, carbon dioxide, nitrogen oxides and other toxic organic species.

EXPLOSION DATA: Not sensitive to mechanical impact. Not sensitive to electrical discharge unless heated above flash point.

SECTION 5 – REACTIVITY DATA

STABILITY: Stable NEPA

CODES:

Health.....1

Flammability.....1

Reactivity.....0

Specific.....0

INCOMPATIBILITY: Strong oxidizing agents (e.g. chlorine, peroxides, strong acids).

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide and other asphyxiants.

SECTION 6 – HEALTH HAZARD DATA

This Material Safety Data Sheet (MSDS) has been prepared in compliance with the United States Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. PRIMARY ROUTES OF EXPOSURE: Aspiration into lungs possible under certain conditions of use; Skin contact; Eye contact; Low order of toxicity by all routes. This material as a whole has not been tested for all potential health hazards.

EXPOSURE LIMITS: 100ppm suggested.

LD50: Not determined

LC50: Not determined

SENSITIZATION: Not determined

CARCINOGENICITY: Lifetime skin painting tests indicate that materials of similar composition have produced skin cancer in experimental animals. The relationship of these results to humans has not been fully established.

SIGNS AND SYMPTOMS OF EXPOSURE:

ACUTE:

SKIN: May cause irritation. May result in defatting, redness itching, inflammation, cracking and possible secondary infection.

EYE: May cause irritation but does not cause permanent damage.

INHALATION: High vapor concentrations are irritating to the eyes, nose, throat and lungs. It may cause headaches and dizziness. It may be anesthetic and may cause other central nervous system effects, irritating to the eyes, nose, throat and lungs.

INDIGESTIN: May cause nausea and vomiting. May act as a laxative, may irritate gastrointestinal tract. Does not cause permanent damage.

CHRONIC: Not determined

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Allergy, eczema or skin conditions.

REPRODUCTIVE TOXICITY: Not determined.

TERATOGENICITY: Not determined

MUTAGENICITY: Not determined

TOXICOLOGICALLY SYNERGISTIC PRODUCTS: Not determined

SECTION 7 – FIRST AID MEASURES

EMERGENCY AND FIRST AID PROCEDURES

EYES: Flush eyes with water for 15 minutes or until irritation subsides. Get medical attention if irritation persists.

SKIN: Promptly remove from skin with dry cloth followed by thorough washing with mild soap and water. Treat burns from hot oil by running under cold water. Get medical attention if burns are serious.

INDIGESTION: Do not induce vomiting, because of danger of aspirating liquid into lungs. If conscious, give large quantities of water or milk to dilute stomach contents. Do not attempt to give anything by mouth to an unconscious person. Get medical attention.

INHALATION: Remove to fresh air. Administer artificial respiration if breathing is stopped. Get medical attention.

OTHER: Remove and wash non-impervious contaminated clothing prior to use.

SECTION 8 – PREVENTIVE MEASURES

SECTION 8 (a) – SPILL OR LEAK PROCEDURES

SPILL PROCEDURES: If possible, contain as a liquid for possible re-refining. Absorb onto sand or other absorbent material. Shovel into closeable container for disposal. Wear protective equipment specified below. Contain away from surface waters and sewers.

WASTE DISPOSAL METHODS: Dispose in accordance with Federal, State and Local regulation. Contact manufacturer regarding recycling.

SECTION 8 (b) SPECIAL PROTECTION INFORMATION

VENTILATION: Local exhaust recommended where oil mist concentration exceeds TLV. Mechanical exhaust acceptable.

PROTECTIVE GLOVES: Wear impervious gloves. Neoprene or nitrile rubber recommended.

EYE PROTECTION: In cases where there is likelihood of eye contact, wear splash proof goggles.

RESPIRATORY PROTECTION: None required for normal conditions. Use approved equipment when exposed to oil mist concentrations above the personal exposure limit.

OTHER PROTECTIVE EQUIPMENT: Wear gauntlets and apron, especially for transfer of bulk quantities of product.

HANDLING PRECAUTIONS: Do not use mouth to suction liquid due to aspiration hazard. Do not get in eyes, on skin or clothing. Do not inhale mist or heated vapors. Do not taste or swallow. Use with adequate ventilation.

SHIPPING AND STORING PRECAUTIONS: Empty product containers may contain product residue. Do not reuse containers. Do not pressurize, cut, heat, weld, grind or expose containers to flame or other sources of ignition. Keep container tightly closed when not in use and during transport.

PERSONAL HYGIENE: Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products.

SECTION 9 – REGULATORY INFORMATION

DOT PROPER SHIPPING NAME: Not regulated as a hazardous material by the U.S. Dept. of Transportation (DOT) 49 CFR 172.101 Hazardous Material Table.

DOT CLASS: None

DOT NUMBER: None

RCRA STATUS: Not a hazardous waste under RCRA (40 CFR 261).

TOSCA INVENTORY STATUS: Not prohibited under TOSCA regulations.

SARA TITLE III: Not listed

SECTION 10 – PREPARATION INFORMATION

PREPARED BY: U.S. Energy Resources LLC

ISSUE DATE: 01/09/09

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SECTION 11 – EMERGENCY CONTACT NUMBERS

(248) 723-6844
(734) 444-9864

SECTION 12 – ECOLOGICAL INFORMATION

ECOTOXICITY EFFECTS: Product can be toxic to fish and aquatic life. The 24 hour TLM of the water soluble fraction of bunker C fuel oil is 3-6ppm in marine and estuarine crustaceans and fish.

SECTION 13 – DISPOSAL CONSIDERATIONS

CLEANUP CONSIDERATIONS: This material as supplied and by itself, when discarded or disposed of, is not an EPA RCRA hazardous waste according to federal regulations. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

SECTION 14 – TRANSPORTATION INFORMATION

49 CFR 172.101:

DOT:

TRANSPORTATION INFORMATION: This material when transported via US commerce would be regulated by DOT Regulations.

PROPER SHIPPING NAME: US-100-ER

UN/IDENTIFICATION NO: NA

HAZARD CLASS: Not US DOT HAZARDOUS

PACKING GROUP: NA

DOT REPORTABLE QUANTITY (LBS): NA