MATERIAL SAFETY DATA SHEETS

MATERIAL SAFETY DATA SHEET

Fleet and Industrial Supply Center
Manchester Fuel Department
Building 467
Bremerton, WA 98314-5100
(206) 476-2135

Date:

[redacted]

PRODUCT NAME: FUEL OIL, RECLAIMED (FOR)

CHEMICAL DESCRIPTION: A BLEND OF VARIOUS PETROLEUM FUELS AND USED LUBRICATING OILS

CHEMICAL FAMILY: PETROLEUM HYDROCARBONS

DOT PROPER SHIPPING NAME: COMBUSTIBLE LIQUID, N.O.S (PETROLEUM HYDROCARBONS)
UN/NA NUMBER : NA1993
DOT HAZARD CLASS: COMBUSTIBLE LIQUID

[redacted]

COMPOSITION COMMENT: THIS MATERIAL IS A BLEND OF DIESEL FUEL, MILITARY AVIATION FUELS (JP4, JP5, JP8) AND VARIOUS USED LUBRICATING AND ENGINE OILS. THE PRODUCT MAY CONTAIN THE FOLLOWING COMPONENTS.

PETROLEUM HYDROCARBONS	APPROX. 100%
TRIMETHYL BENZENE (CAS # 25551-13-7)	< 0.1%
NAPHTHALENE HYDROCARBONS (CAS # 91-20-3)	<0.1%
BENZENE (CAS # 71432)	<0.1%
XYLENES (CAS # 1330-20-7)	<0.1%

(List is not all inclusive. Other components may be present)

[redacted]

PHYSICAL DESCRIPTION: dark brown oily liquid, petroleum odor
pH: NA
VAPOR PRESSURE: unknown
VAPOR DENSITY: unknown
BOILING POINT: unknown
POUR POINT: <-7 deg. C
SOLUBILITY: insoluble in water, completely soluble in oil
SPECIFIC GRAVITY: 0.83-0.90
EVAPORATION RATE: unknown
VISCOSITY: 2.0-15 centistokes @ 40 deg. C
PERCENT VOLATILE: unknown

STABILITY AND REACTIVITY:

EXHIBIT C

Disclaimer of Liability

The information in this MSDS was obtained from sources which we believe are reliable. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING IT'S CORRECTNESS.

The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, OR DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

EXHIBIT C

For fires involving this material; do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus to protect against the hazardous effects of normal products of combustion or oxygen deficiency. Cool tanks and containers exposed to fire with water.

COMBUSTION PRODUCTS:

Normal combustion forms carbon dioxide and water vapor; incomplete combustion can produce carbon dioxide.

FIRST AID MEASURES

EYE: No first aid procedures are required. However, as a precaution, flush eyes with fresh water for 15 minutes. Remove contact lenses, if worn.

SKIN: Remove contaminated clothing. Wash skin thoroughly with soap and water. See a doctor if any signs or symptoms described in this document occur. Discard contaminated non-waterproof shoes and boots. Wash contaminated clothing.

INGESTION: If swallowed, give water or milk to drink and telephone for medical advice. DO NOT make person vomit unless directed to do so by medical personnel. If medical advice cannot be obtained, then take the person to nearest medical emergency treatment center or hospital.

INHALATION: Move the person to fresh air. For respiratory distress, give air, oxygen, or administer cardiopulmonary resuscitation (CPR) if necessary. If effects continue, see a doctor.

NOTE TO PHYSICIANS: Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid which can cause pneumonitis.

Eliminate all sources of ignition in the vicinity of spill or released vapor. Contain spill.

Clean up spills immediately, observing precautions in Exposure Controls/ Personal Protective Equipment section. This material is considered to be a water pollutant and releases of this product should be prevented from contaminating soil and water and from entering drainage and sewer systems. Clean up small spills using appropriate techniques such as sorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Follow prescribed procedures for reporting and responding to larger releases. The spilled material and any water or soil which it has contacted may be hazardous to animal/aquatic life.

Regulations require reporting spills of this material that could reach any surface waters. The toll free number for the U. S. Coast Guard National Response Center is 1-800-424-8802. Comply with all applicable laws and regulations for reporting spills and disposing of spilled or cleaned up material.

EXHIBIT C

CARCINOGENICITY: This product contains a mixture of petroleum hydrocarbons called middle distillates (boiling between 380F and 700F). Toxicology data developed on some middle distillates found that they caused *positive responses in some mutagenicity tests and caused skin cancer when repeatedly applied to mice over their* lifetime. This product may contain some middle distillates found to cause those adverse effects.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: No special eye protection is usually necessary. Eye protection is highly recommended in conditions where petroleum is being misted.

SKIN PROTECTION: Avoid contact with skin or clothing. Skin contact should be minimized by wearing protective clothing or gloves.

RESPIR. . ORY PROTECTION: No special respiratory protection is normally required. However, if operating conditio: .reate high airborne concentrations, the use of an approved respirator is recommended.

ENGINEERING CONTROLS: Use this material only in well-ventilated areas.

OTHER HYGIENIC PRACTICES: Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet facilities. Remove soiled clothing and launder before re-use.

FLAMMABLE PROPERTIES:

FLASH POINT (ASTM D93): 100-200 Deg F
AUTO IGNITION: Approx. 495F (Based on NFPA "Fuel Oil No. 2")
FLAMMABILITY LIMITS (% by volume in air): Lower: approx. 0.8 Upper: approx. 7.5 (Based on NFPA "Fuel Oil No. 2)

EXTINGUISHING MEDIA: CO_2, Dry Chemical, Foam and Water Fog

HANDLING AND STORAGE: DO NOT USE OR STORE near flame, sparks or hot surfaces. USE ONLY IN *WELL VENTILATED AREA.*

FIRE AND EXPLOSION HAZARDS: Moderately combustible. When heated above the flash point, this material will release flammable vapors which if exposed to an ignition source can burn in the open or be explosive in confined spaces. Mists or sprays may be flammable at temperatures below the normal flash point.

FIRE FIGHTING INSTRUCTION:

Liquid evaporates and forms vapor that can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches.

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HAZARDOUS DECOMPOSITION PRODUCTS: *unknown*
CHEMICAL STABILITY: Stable
CONDITIONS TO AVOID: No data available
INCOMPATIBILITY WITH OTHER MATERIALS: May react with strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
HAZARDOUS POLYMERIZATION: Polymerization will not occur.

SUMMARY OF HAZARDS

- COMBUSTIBLE LIQUID
- HARMFUL OR FATAL IF SWALLOWED-CAN ENTER THE LUNGS AND CAUSE DAMAGE
- CAUSES SKIN IRRITATION UPON PROLONGED OR REPEATED CONTACT

ACUTE HAZARDS: Liquid, mist or vapor contact can irritate eyes, skin, and the respiratory and digestive tracts.

EYE: This substance is not expected to cause prolonged or significant eye irritation.

SKIN: This substance is a moderate skin irritant so contact with the skin could cause prolonged (days) injury to the affected area. The degree of injury will depend on the amount of material that gets on the skin and the speed and thoroughness of the first aid treatment. Prolonged or repeated contact with this material may result in skin absorption and produce toxic effects.

INGESTION: This material can irritate the mouth, throat, and stomach and cause nauses, vomiting, diarrhea and restlessness. Because of the low viscosity of this substance, it can directly enter the lungs if it is swallowed. (This is called aspiration). This can occur during the act of swallowing or when vomiting the substance. Once in the lungs, the substance is very difficult to remove and can cause severe injury to the lungs and death.

INHALATION - primary route: Exposure can cause irritation to the nose, throat and lungs. Prolonged breathing of vapors can cause central nervous system effects (dizziness, Loss of coordination, coma and death) depending on the concentration/duration of exposure.

SIGNS AND SYMPTOMS OF EXPOSURE:

SKIN - primary route: Moderate skin irritation can occur upon short term exposure. Symptoms may include pain or a feeling of heat, discoloration, swelling and blistering.

INHALATION: Central nervous system effects may include on e or more of the following: headache, dizziness, loss of appetite, weakness and loss of coordination.

CHRONIC EFFECTS:

Exposure to this material may cause cardiac sensitization. Long term tests show that similar petroleum distillates have produced skin, liver, and kidney tumors in laboratory animals. Avoid prolonged or repeated contact. Potential reproductive hazard.
Personnel with pre-existing central nervous system disease, skin disorders, or chronic respiratory diseases should avoid exposure to this product. Reports in the literature conclude that long-term exposure to jet fuels may result in changes in 1) the incidence and prevalence of psychiatric symptoms 2) psychological tests and 3) EEGs. These studies were conducted in specific work situations where there were exposures to jet fuels.

EXHIBIT C