

Safety Data Sheet

Diesel Fuel#1 - Low Sulfur (LS) and Ultra Low Sulfur Diesel (ULSD)

NFPA: Flammability



Par Hawaii Refining

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	: Diesel Fuel#1- Low Sulfur (LS) and Ultra Low Sulfur Diesel (ULSD)		
Synonyms	: F76 Military Diesel		
SDS Number	: 888100004791	Version	: 2.11
Product Use Description	: Fuel		
Company	: Par Hawaii Refining 91-325 Komohana Street, Kapolei, HI 96707		
Contact Number:	: (808) 547-3111	Chemtrec (Emergency Contact)	: (800) 424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classifications : Flammable Liquid – Category 3 or 4 depending on formulation.
 Aspiration Hazard – Category 1.
 Specific Target Organ Toxicity (Repeated Exposure) – Category 2
 Specific Target Organ Toxicity (Single Exposure) – Category 3
 Chronic Aquatic Toxicity – Category 2

Pictograms :



Signal Word:

Danger

Hazard Statements:

Flammable liquid and vapor.
 May be fatal if swallowed and enters airways – do not siphon diesel by mouth.
 Suspected of causing skin cancer if repeated and prolonged skin contact occurs.
 Suspected of causing cancer in the respiratory system if repeated and prolonged over-exposure by inhalation occurs.
 May cause damage to liver, kidneys and nervous system by repeated and prolonged inhalation.
 Causes eye irritation by eye contact with liquid.
 Repeated or prolonged skin contact can cause skin irritation and dermatitis.
 May cause drowsiness or dizziness by inhalation.

Precautionary statements:**Prevention:**

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Keep away from heat, sparks, open flames, welding and hot surfaces.
 No smoking.
 Keep container tightly closed.
 Ground and/or bond container and receiving equipment.
 Use explosion-proof electrical equipment.
 Use only non-sparking tools if tools are used in flammable atmosphere.
 Take precautionary measures against static discharge.
 Wear gloves, eye protection and face protection as needed to prevent skin and eye contact with liquid.
 Wash hands or liquid-contacted skin thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Do not breathe vapors.
 Use only outdoors or in a well-ventilated area.

Response:

In case of fire: Use dry chemical, CO2, water spray or fire fighting foam to extinguish.
 If swallowed: Immediately call a poison center, doctor, hospital emergency room, medical clinic or 911. Do NOT induce vomiting. Rinse mouth.
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 If in eye: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 If skin or eye irritation persists, get medical attention.
 If inhaled: Remove person to fresh air and keep comfortable for breathing.
 Get medical attention if you feel unwell.

Storage:

Store in a well ventilated place. Keep cool. Store locked up. Keep container tightly closed . Use only approved containers.

Disposal:

Dispose of contents/containers to approved disposal site in accordance with local, regional, national, and/or international regulations.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Weight %
Fuels, diesel, Gasoil - unspecified	8008-20-6 64741-44-2 64741-77-1	100%

Naphthalene	91-20-3	0 - 1%
Nonane	111-84-2	1 - 1.5%
1,2,4-Trimethylbenzene	95-63-6	1 - 1.5%
Xylene	1330-20-7	1 - 1.5%
Sulfur	7704-34-9	15 ppm maximum

SECTION 4. FIRST AID MEASURES

Inhalation	: Move to fresh air. Give oxygen. If breathing is irregular or stopped, administer artificial respiration. Seek medical attention immediately.
Skin contact	: Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. Wash contaminated clothing before re-use. If skin irritation persists, call a physician.
Eye contact	: Remove contact lenses. Rinse thoroughly with plenty of water for at least 15 minutes and seek medical attention.
Ingestion	: Do not induce vomiting without medical advice. If a person vomits when lying on his back, place him in the recovery position. Seek medical attention immediately.
Notes to physician	: Symptoms: Dizziness, Discomfort, Headache, Nausea, Disorder, Vomiting, Lung edema, Liver disorders, Kidney disorders. Aspiration may cause pulmonary edema and pneumonitis.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	: SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO ₂ , water spray or fire fighting foam. LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers. Keep containers and surroundings cool with water spray.
Specific hazards during fire fighting	: Fire Hazard Do not use a solid water stream as it may scatter and spread fire. Cool closed containers exposed to fire with water spray.
Special protective equipment for fire-fighters	: Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.
Further information	: Exposure to decomposition products may be a hazard to health. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	: Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to contain spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to
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determine the extent of subsurface impact. Use personal protective equipment. Ensure adequate ventilation.

Environmental precautions : Carefully contain and stop the source of the spill, if safe to do so. Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection. Discharge into the environment must be avoided. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up : Take up with sand or oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal - caution, flammable vapors may accumulate in closed containers. Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling : Keep away from fire, sparks and heated surfaces. No smoking near areas where material is stored or handled. The product should only be stored and handled in areas with intrinsically safe electrical classification.

: Hydrocarbon liquids including this product can act as a non-conductive flammable liquid (or static accumulators), and may form ignitable vapor-air mixtures in storage tanks or other containers. Precautions to prevent static-initated fire or explosion during transfer, storage or handling, include but are not limited to these examples:

- (1) Ground and bond containers during product transfers. Grounding and bonding may not be adequate protection to prevent ignition or explosion of hydrocarbon liquids and vapors that are static accumulators.
- (2) Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil or diesel) is loaded into tanks previously containing low flash point products (such gasoline or naphtha).
- (3) Storage tank level floats must be effectively bonded.

For more information on precautions to prevent static-initated fire or explosion, see NFPA 77, Recommended Practice on Static Electricity (2007), and API Recommended Practice 2003, Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents (2008).

Conditions for safe storage, including incompatibilities : Keep away from flame, sparks, excessive temperatures and open flame. Use approved containers. Keep containers closed and clearly labeled. Empty or partially full product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose containers to sources of ignition. Store in a well-ventilated area. The storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

: Keep away from food, drink and animal feed. Incompatible with oxidizing agents. Incompatible with acids.

: Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Exposure Guidelines**

List	Components	CAS-No.	Type:	Value
OSHA Z1	Naphthalene	91-20-3	PEL	10 ppm 50 mg/m3
	Xylene	1330-20-7	PEL	100 ppm 435 mg/m3
ACGIH	Diesel Fuel	68476-30-2	TWA	100 mg/m3
ACGIH	Naphthalene	91-20-3	TWA	10 ppm
		91-20-3	STEL	15 ppm
	Xylene	1330-20-7	TWA	100 ppm
		1330-20-7	STEL	150 ppm
	Nonane	111-84-2	TWA	200 ppm

- Engineering measures** : Use adequate ventilation to keep gas and vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces. Use only intrinsically safe electrical equipment approved for use in classified areas.
- Eye protection** : Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.
- Hand protection** : Gloves constructed of nitrile, neoprene, or PVC are recommended. Consult manufacturer specifications for further information.
- Skin and body protection** : If needed to prevent skin contact, chemical protective clothing such as of DuPont TyChem®, Saranex or equivalent recommended based on degree of exposure. The resistance of specific material may vary from product to product as well as with degree of exposure.
- Respiratory protection** : A NIOSH/ MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection. NIOSH/MSHA approved positive-pressure self-contained breathing apparatus (SCBA) or Type C positive-pressure supplied air with escape bottle must be used for gas concentrations above occupational exposure limits, for potential of uncontrolled release, if exposure levels are not known, or in an oxygen-deficient atmosphere.
- Work / Hygiene practices** : Emergency eye wash capability should be available in the near proximity to operations presenting a potential splash exposure. Use good personal hygiene practices. Avoid repeated and/or prolonged skin exposure. Wash hands before eating, drinking, smoking, or using toilet facilities. Do not use as a cleaning solvent on the skin. Do not use solvents or harsh abrasive skin cleaners for washing this product from exposed skin areas. Waterless hand cleaners are effective. Promptly remove contaminated clothing and launder before reuse. Use care when laundering to prevent the formation of flammable vapors which could ignite via washer or dryer. Consider the need to discard contaminated leather shoes and gloves.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Clear to straw colored liquid								
Odor	: Characteristic petroleum or kerosene-like odor								
Odor threshold	: 0.1 - 1 ppm typically reported								
pH	: Not applicable								
Melting point/freezing point	: Gel point can be about -15°F; freezing requires laboratory conditions								
Initial boiling point & range	: 154 - 372 °C (310° - 702 °F)								
Flash point	: 38°C Minimum for #1 Diesel, 52°C Minimum for #2 Diesel								
Evaporation rate:	: Higher initially and declining as lighter components evaporate								
Flammability (solid, gas)	: Flammable vapor released by liquid								
Upper explosive limit	: 6.5 %(V)								
Lower explosive limit	: 0.6 %(V)								
Vapor pressure	: < 2 mm Hg at 20 °C								
Vapor density (air = 1)	: > 4.5								
Relative density (water = 1)	: 0.86 g/mL								
Solubility (in water)	: 0.0005 g/100 mL								
Partition coefficient (n-octanol/water)	: > 3.3 as log Pow								
Auto-ignition temperature	: 257 °C (495 °F)								
Decomposition temperature	: Will evaporate or boil and possibly ignite before decomposition occurs.								
Kinematic viscosity	: 1 to 6 mm ² /s range reported for No.1 or No.2 diesel at ambient temperatures								
Conductivity (conductivity can be reduced by environmental factors such as a decrease in temperature)	<table> <tr> <td>Diesel Fuel Oils at terminal load rack:</td> <td>At least 25 pS/m</td> </tr> <tr> <td>Ultra Low Sulfur Diesel (ULSD) without conductivity additive:</td> <td>0 pS/m to 5 pS/m</td> </tr> <tr> <td>ULSD at terminal load rack with conductivity additive:</td> <td>At least 50 pS/m</td> </tr> <tr> <td>JP-8 at terminal load rack:</td> <td>150 pS/m to 600 pS/m</td> </tr> </table>	Diesel Fuel Oils at terminal load rack:	At least 25 pS/m	Ultra Low Sulfur Diesel (ULSD) without conductivity additive:	0 pS/m to 5 pS/m	ULSD at terminal load rack with conductivity additive:	At least 50 pS/m	JP-8 at terminal load rack:	150 pS/m to 600 pS/m
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ULSD at terminal load rack with conductivity additive:	At least 50 pS/m								
JP-8 at terminal load rack:	150 pS/m to 600 pS/m								

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Vapors may form explosive mixture with air. Hazardous polymerization does not occur.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Can react with strong oxidizing agents, peroxides, acids and alkalies. Do not use with Viton or Fluorel gaskets or seals.
Conditions to avoid	: Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources. Avoid static charge accumulation and discharge (see Section 7).

Hazardous decomposition products : Ignition and burning can release carbon monoxide, carbon dioxide, non-combusted hydrocarbons (smoke) and, depending on formulation, trace amounts of sulfur dioxide. Diesel exhaust particulates may be a lung hazard (see Section 11).

SECTION 11. TOXICOLOGICAL INFORMATION

Inhalation : Vapors or mists from this material can irritate the nose, throat, and lungs, and can cause signs and symptoms of central nervous system depression, depending on the concentration and duration of exposure.

Skin contact : Skin irritation leading to dermatitis may occur upon prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed. Long-term, repeated skin contact may cause skin cancer.

Eye contact : Eye irritation may result from contact with liquid, mists, and/or vapors..

Ingestion : Harmful or fatal if swallowed. Do NOT induce vomiting. This material can irritate the mouth, throat, stomach, and cause nausea, vomiting, diarrhea and restlessness. Aspiration hazard if liquid is inhaled into lungs, particularly from vomiting after ingestion. Aspiration may result in chemical pneumonia, severe lung damage, respiratory failure and even death.

Target organs : Central nervous system, Eyes, Skin, Kidney, Liver

Further information : Studies have shown that similar products produce skin cancer or skin tumors in laboratory animals following repeated applications without washing or removal. The significance of this finding to human exposure has not been determined. Other studies with active skin carcinogens have shown that washing the animal's skin with soap and water between applications reduced tumor formation. Positive mutagenicity results have been reported. Components of the product may affect the nervous system. IARC classifies whole diesel fuel exhaust particulates as probably carcinogenic to humans (Group 2A). NIOSH regards whole diesel fuel exhaust particulates as a potential cause of occupational lung cancer based on animal studies and limited evidence in humans.

Component:

Fuels, diesel, No 2; Gasoil - unspecified	68476-34-6	<u>Acute oral toxicity:</u> LD50 rat Dose: 5,001 mg/kg
		<u>Acute dermal toxicity:</u> LD50 rabbit Dose: 2,001 mg/kg
		<u>Acute inhalation toxicity:</u> LC50 rat Dose: 7.64 mg/l Exposure time: 4 h
		<u>Skin irritation:</u> Classification: Irritating to skin. Result: Severe skin irritation
Naphthalene	91-20-3	<u>Acute oral toxicity:</u> LD50 rat Dose: 2,001 mg/kg
		<u>Acute dermal toxicity:</u> LD50 rat Dose: 2,501 mg/kg
		<u>Acute inhalation toxicity:</u> LC50 rat Dose: 101 mg/l
		<u>Eye irritation:</u> Classification: Irritating to eyes. Result: Mild eye irritation

Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.
Result: Mild skin irritation

Eye irritation: Classification: Irritating to eyes.
Result: Mild eye irritation

Carcinogenicity: N11.00422130

Nonane 111-84-2

Acute oral toxicity: LD50 mouse
Dose: 218 mg/kg

Acute inhalation toxicity: LC50 rat
Exposure time: 4 h

1,2,4-Trimethylbenzene 95-63-6

Acute inhalation toxicity: LC50 rat
Dose: 18 mg/l
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.
Result: Skin irritation

Eye irritation: Classification: Irritating to eyes.
Result: Eye irritation

Xylene 1330-20-7

Acute oral toxicity: LD50 rat
Dose: 2,840 mg/kg

Acute dermal toxicity: LD50 rabbit
Dose: ca. 4,500 mg/kg

Acute inhalation toxicity: LC50 rat
Dose: 6,350 mg/l
Exposure time: 4 h

Skin irritation: Classification: Irritating to skin.
Result: Mild skin irritation

Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Eye irritation: Classification: Irritating to eyes.
Result: Mild eye irritation

Carcinogenicity

NTP : Naphthalene (CAS-No.: 91-20-3)

IARC : Naphthalene (CAS-No.: 91-20-3)

OSHA : No component of this product which is present at levels greater than or equal to 0.1 % is identified as a carcinogen or potential carcinogen by OSHA.

CA Prop 65 : WARNING! This product contains a chemical known to the State of California to cause cancer.
naphthalene (CAS-No.: 91-20-3)

SECTION 12. ECOLOGICAL INFORMATION

Biochemical Oxygen Demand (BOD) : No data available

Adsorbed organic bound halogens (AOX) : Not included

Additional ecological information : Keep out of sewers, drainage areas, and waterways. Report spills and releases, as applicable, under Federal and State regulations.

Component:

Naphthalene	91-20-3	<u>Toxicity to algae:</u> EC50 Species: Dose: 33 mg/l Exposure time: 24 h
1,2,4-Trimethylbenzene	95-63-6	<u>Toxicity to fish:</u> LC50 Species: Pimephales promelas (fathead minnow) Dose: 7.72 mg/l Exposure time: 96 h <u>Acute and prolonged toxicity for aquatic invertebrates:</u> EC50 Species: Daphnia Dose: 3.6 mg/l Exposure time: 48 h

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal : Consult federal, state and local waste regulations to determine appropriate waste characterization of material and allowable disposal methods.

SECTION 14. TRANSPORT INFORMATION**CFR**

Proper shipping name : DIESEL FUEL
UN-No. : 1202 (NA 1993)
Class : 3
Packing group : III

TDG

Proper shipping name : DIESEL FUEL
UN-No. : UN1202 (NA 1993)
Class : 3
Packing group : III

IATA Cargo Transport

UN UN-No. : UN1202 (NA 1993)
Description of the goods : DIESEL FUEL
Class : 3
Packaging group : III
ICAO-Labels : 3
Packing instruction (cargo aircraft) : 366
Packing instruction (cargo aircraft) : Y344

IATA Passenger Transport

UN UN-No. : UN1202 (NA 1993)
Description of the goods : DIESEL FUEL
Class : 3
Packaging group : III
ICAO-Labels : 3
Packing instruction : 355

(passenger aircraft)
Packing instruction : Y344
(passenger aircraft)

IMDG-Code

UN-No. : UN 1202 (NA 1993)
Description of the goods : DIESEL FUEL
Class : 3
Packaging group : III
IMDG-Labels : 3
EmS Number : F-E S-E
Marine pollutant : No

SECTION 15. REGULATORY INFORMATION

TSCA Status : On TSCA Inventory
DSL Status : All components of this product are on the Canadian DSL list.
SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard
Fire Hazard

CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIROMENT)

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil. Fractions of crude oil, and products (both finished and intermediate) from the crude oil refining process and any indigenous components of such from the CERCLA Section 103 reporting requirements. However, other federal reporting requirements, including SARA Section 304, as well as the Clean Water Act may still apply.

PENN RTK US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Components**CAS-No.**

Fuels, diesel, No 2; Gasoil - unspecified 68476-34-6
Naphthalene 91-20-3
Xylene 1330-20-7
1,2,4-Trimethylbenzene 95-63-6
Nonane 111-84-2

MASS RTK US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

Components**CAS-No.**

Nonane 111-84-2
1,2,4-Trimethylbenzene 95-63-6
Xylene 1330-20-7
Naphthalene 91-20-3

NJ RTK US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Components**CAS-No.****Fuels, diesel, No 2; Gasoil - unspecified**

68476-34-6

Naphthalene

91-20-3

Xylene

1330-20-7

1,2,4-Trimethylbenzene

95-63-6

Nonane

111-84-2

SARA III

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic
Chemicals (40 CFR 372.65) - Supplier Notification Required**Components****CAS-No.****1,2,4-Trimethylbenzene**

95-63-6

Xylene

1330-20-7

Naphthalene

91-20-3

California Prop. 65

: WARNING! This product contains a chemical known to the State of California to
cause cancer.

Naphthalene

91-20-3

SECTION 16. OTHER INFORMATION**Further information**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

02/26/2016

1352, 1680, 1766, 1877, 1906, 1907, 1908, 1909, 1910, 1911, 1912