

MSDS Document

Product Diesel Fuel #2 HS PPD

1. Chemical Product and Company Identification

Product Diesel Fuel #2 HS PPD

Synonyms: LAGO, DF2 HS PPD, LAGO PPD, NRLM

MSDS ID MSDS00084

Manufacturer

Petro Star Inc. Valdez Refinery
2 1/2 Mile Dayville Road
Valdez, AK 99705

Contact Name

Randy Maag

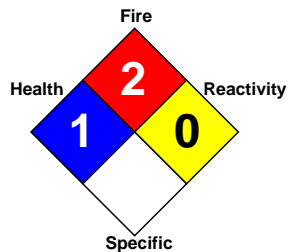
Phone Number

(907) 835-5063

Emergency Phone

(800) 633-8253

Revision Date 6/3/2003



2. Composition and Information on Ingredients

Ingredient	CAS Number	Weight %	ACGIH TLV	PEL	STEL
Petroleum Distillate - mid range (Diesel Fuel, No. 2)	68476-34-6	100%	0		

3. Hazard Identification

Hazards

This material is hazardous as defined under OSHA regulations: Combustible.

Threshold Limit Value: Recommended occupational exposure limit for Benzene is 1 ppm for an 8 -hour period. H2S gas may be present.

Potential Health Effects

Primary Routes of Entry: Skin, inhalation

This product may cause irritation to the eyes, nose, throat, lungs and skin after prolonged or repeated exposure. Extreme overexposure or aspiration into the lungs may cause lung damage or death. Overexposure may cause weakness headache, nausea, confusion, blurred vision, drowsiness, and other nervous system effects; greater exposure may cause dizziness, slurred speech, flushed face, aortic plaques, heart beat irregularities, unconsciousness, and convulsions.

Pulmonary fibrosis has been reported in cable plant workers exposed to mist and vapors of mineral oils and kerosene for 5-35 years. Because of mixed exposures to mineral oils as well as kerosene, it is difficult to attribute these effects to kerosene alone.

Individuals with pre-existing diseases of the lungs, liver or kidneys may have increased susceptibility to the toxicity of excessive exposures.

Combustion Product - Carbon Monoxide.

Carbon monoxide decreases the ability of the blood to carry oxygen. Inhalation may cause headache, nausea, rapid respirations, vomiting, dizziness, confusion, impaired judgement, personality changes, memory impairment, weakness, shortness of breath, unconsciousness, convulsions and death if not treated. It may cause chest pains in persons with heart disease. Carbon monoxide poisoning can cause pallor (whiteness) or cyanosis (blueness) of the skin and extremities.

High exposures to carbon monoxide may cause heart irregularities. Carbon monoxide may adversely affect the unborn babies of pregnant women.

Carcinogenicity Information: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

4. First Aid Information

If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Eyes: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Remove and isolate contaminated clothing and shoes. Launder clothes before reuse. If skin surface is damaged, apply a clean dressing and seek medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops, seek medical attention.

Ingestion: **ASPIRATION HAZARD:** Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

Keep victim warm and quiet.

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Notes to Physicians: Activated charcoal mixture may be administered. To prepare activated charcoal mixture, suspend 50 grams activated charcoal in 400 mL water and mix thoroughly. Administer 5 mL/kg, or 350 mL for an average adult.

Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances. Activated charcoal may induce vomiting, but may be given after emesis or lavage to absorb toxic additives. Steroid therapy in mild to moderate cases does not improve outcome. Bacterial pneumonia often occurs after exposure, but prophylactic antibiotics are not indicated and should be reserved for

documented bacterial pneumonia.

High-pressure hydrocarbon injection injuries may produce substantial necrosis of underlying tissue despite an innocuous appearing external wound. Often these injuries require extensive emergency surgical debridement and all injuries should be evaluated by a specialist in order to assess the extent of injury.

5. Fire Fighting Measures

Flash Point	100F to 162F
FP Method	CC
LEL	0.7
UEL	5

Firefighting

Flash Point (Method Used): 100 F to 162 F (ASTM D93).

Flammable or Explosive Limits (% by Volume in Air): Estimated: UEL 5.0, LEL 0.7.

CAUTION: All these products have a very low flash point. Vapor forms explosive mixture with air. Vapors or gases may travel considerable distances to ignition source and flash back. Use of water spray when fighting fire may be inefficient.

Small fires: Dry chemical, CO₂, water spray or regular foam.

Large fires: Water spray, fog or regular foam,. Use water spray or fog; do not use straight streams. Move containers from fire area if you can do it without risk.

Fire involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant.

Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk.

Water spray may be useful if minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

6. Accidental Release Measures

Release Measures

Spill or Leak: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep hot metal surfaces away from spill release. All equipment used when handling the product must be grounded.

Do not touch or walk through spilled material. Stay upwind and away from spill/release. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustion material and transfer to containers. Use clean non-sparking tools to collect absorbed material.

Large Spills: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor, but may not prevent ignition in closed spaces.

Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shore lines, notify the National response Center (phone number 800-424-8802).

Waste Disposal Method: All materials affected by the spill, to include sorbent materials, earth, snow, etc. should be removed and disposed of in a manner conforming with State and Federal regulations. Use of CCROV recommended.

7. Handling and Storage

Handling

Handling: Avoid breathing vapors or mist. Avoid contact with eyes. Open container slowly to relieve any pressure. Bond and ground all equipment when transferring from one vessel to another. Can accumulate static charge by flow or agitation. Refer to NFPA-704 and/or API RP-2003 for specific bonding/grounding requirements.

Do not enter confined spaces without following proper entry procedures.

Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignitions such as sparks or open flames. Use good personal hygiene.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition.

They may explode and cause injury or death. Empty drums should be completely drained, properly bunged and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition.

Post area "No Smoking or Open Flame." Store only in approved containers. Keep away from any incompatible material (See Section 10). Protect container(s) against physical damage.

Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

8. Exposure Controls and Personal Protection

Exposure Controls

If current ventilation practices are not adequate to maintain airborne concentration below the established exposure limits additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

Personal Protective Equipment (PPE):

Respiratory: A NIOSH certified air purifying respirator with an organic vapor cartridge may be used under conditions where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. A respiratory protection program that meets OSHA's 29 CFR 1920.134 and ANSI Z88.2 requirements must be followed.

NIOSH recommendations for respirator selection is listed below:

100 mg/3 - CCROV/SA
2500 mg/m³ - SA:CF/PAPROV
5000 mg/m³ - CCRF)V/GMFOV/PAPRTOV/SCBA/SAF
Emergency or planned entry into unknown concentrations or IDLH conditions - SCBA:PD,PP:
ASCBA
Escape: GMFOV/SCBAE
Skin: The use of gloves impervious to the specific material handled is advised to prevent skin contact, possible irritation and skin damage. NBR or neoprene gloves are recommended. Depending on conditions of use, apron and/or arm covers may be necessary.
Eye/Face: Approved eye protection to safeguard against potential eye contact, irritation or injury is recommended. Depending on conditions of use, a face shield may be necessary.
Other Protective Equipment: A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed. An oil-resistant apron to prevent repeated or prolonged contact may be required.
Launder contaminated clothing before reuse. Extremely contaminated leather shoes should be discarded.

9. Physical and Chemical Properties

Product CAS Number	68476-34-6
Physical State	Liquid
Specific Gravity	0.835
Density lbs/Gal.	5.8
Color/Appearance	Colorless to yellowish
Odor	strong characteristic
Boiling/Cond. Point	347F - 617F
Melting/Freezing Point	NA
Solubility	Insoluble
Evaporation Rate	0.04
Percent Volatile	100
Viscosity	oily liquid
Vapor Density	5.8
Vapor Pressure	<5MMHg

Physical Properties

Boiling Range: 347F to 617F.
Vapor Pressure (MM Hg): Less than 5 MM Hg @ 100 F.
Vapor Density: (Air@1): 5.8
Solubility in Water: Insoluble
Appearance and Odor: Colorless to yellowish, oily liquid with a strong characteristic odor.
Specific Gravity (H₂O=1): 0.835 - 0.850
Percent Volatile by Volume (%): 100
Evaporation Rate (n-Butyl acetate=1): 0.04

10. Stability and Reactivity

Conditions to Avoid

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Flammable liquid and vapor. Vapor can cause flash fire.

Conditions to Avoid: Avoid all possible sources of ignition.

Incompatibility (Materials to Avoid): Strong oxidizers such as chlorine and concentrated oxygen.

Hazardous Decomposition Products: The use of hydrocarbon fuels in an area without

adequate ventilation may result in hazardous levels of combustion products (e.g., oxides of carbon, sulfur and nitrogen, and other hydrocarbons) and/or dangerously low oxygen levels.

11. Toxicological Information

Toxicology

Limited quantitative data exists with regard to skin absorption of gases, vapors, and liquids by workers. The Chemical Substances TLV Committee recommends that the integration of data from acute dermal studies and repeated dose dermal studies in animals and/or humans, along with the ability of the chemical to be absorbed, be used in deciding on the appropriateness of the skin notation. In general, available data which suggest that the potential for absorption via the hands/forearms during the workday could be significant, especially for chemicals with lower TLVs.

Substances having a skin notation and a low TLV may present special problems for operations involving high airborne concentrations of the material, particularly under conditions where significant areas of the skin are exposed for a long period of time. Under these conditions, special precautions to significantly reduce or preclude skin contact may be required.

Biological monitoring should be considered to determine the relative contribution of exposure via the dermal route to the total dose.

It is believed that air sampling alone is insufficient to accurately quantitate exposure and that measures to prevent significant cutaneous absorption may be required.

Confirmed Animal Carcinogen with Unknown Relevance to Humans: The agent is carcinogenic in experimental animals at relatively high dose, by routes of administration, at sites, of histological types, or by mechanisms that may not be relevant to worker exposure.

Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence does not suggest that the agent is likely to cause cancer in humans except under uncommon or unlikely routes or levels of exposure. (ACGIH, 2001 TLVs and BEIs).

12. Ecological Information

Ecology

Ecotoxicological Information

Fish (Rainbow trout): LC50 (96 hr.*), 18-25 mg/L**

Daphnia (Water flea): 50% Immobilization (48 hr.*), 1.4-21 mg/L**

Algae: 50% Growth inhibition (72 hr.*), 4-15 mg/L**

* Exposure Time

** Tests reported by CONCAWE, 1996, Report No. 96/55; sample tested as a sweet, desulfurized kerosene with a bp of 300-550 degrees F.

13. Disposal Considerations

Disposal

All materials affected by the spill, to include sorbent materials, earth, snow, etc., should be removed and disposed of in a manner conforming with State and Federal regulations. Do not flush to surface water or sanitary sewer system. By itself, the liquid is expected to be a RCRA ignitable hazardous waste, when disposed.

14. Transportation Information

DOT Transportation: Fuel Oil, 3, NA1993, PG III, Combustible Liquid
Bulk Package Placard/Marking: Flammable/1202

Non-bulk package Label: Flammable or None
Hazardous Substance /RQ: None

15. Regulatory Information

Regulatory

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.

CERCLA/SUPERFUND: Not applicable; this material is covered by the CERCLA petroleum exclusion.

EPA (CERCLA) REPORTABLE QUANTITY: NONE

SARA, TITLE III, 302/304

This material is not known to contain extremely hazardous substances.

SARA, TITLE III, 311/312

Acute: Yes

Chronic: Yes

Fire: Yes

Reactivity: No

Pressure: No

SARA TITLE III, 313

This material is not known to contain any chemicals at a level of 1.0% or greater (0.1% for carcinogens) on the list of Toxic Chemicals and subject to release reporting requirements.

TSCA Material and/or components are listed in the TSCA Inventory of Chemical Substances (40 CFR 710).

RCRA: This material, when discarded or disposed of, is not specifically listed as a hazardous waste in Federal regulations. However, it could be considered hazardous if it meets criteria for being toxic, corrosive, ignitable, or reactive according to US definitions (40 CFR 261). This material could also become a hazardous waste if it is mixed with or comes in contact with a listed hazardous waste. If it is a hazardous waste, regulations 40 CFR 262-266 and 268 may apply.

Clean Water Act: The material contains the following ingredients which is considered hazardous if allowed into navigable waters and therefore reportable to the National Response Center (1-800-424-8802).

Ingredient: Petroleum Hydrocarbons

Reportable Quantity: Film or sheen upon, or discoloration of, any water surface.

State Regulations (U.S.)

California Prop. 65: This material is not known to contain any ingredient subject to the Act.

Pennsylvania Worker and Community Right To Know Act: This material may contain the following ingredient subject to the Pennsylvania worker and Community Right To Know

Hazardous Substances List:

Ingredient: Kerosene (Petroleum)

Category: Hazardous Substance

Canadian Regulations:

Class B Division 3 - Combustible Liquid

Class D Division 2 Subdivision B - Toxic Material. Chronic Toxic Effects.

16. Other Information