

Safety Data Sheet

Material Name: Diesel #1 and Diesel #2

Synonyms: Diesel Fuel Arctic Grade, Fuel Oil #1, Fuel Oil #2, Kerosene, Diesel #2 HS PPD, Diesel, Marine Diesel #2, Jet Fuel, JP-8, JP-5

***** Section 1 - Product and Company Identification *****

Manufacturer Information

Petro Star, Inc.
3900 C Street
Suite 802
Anchorage, AK 99503-5963

Phone: 907-339-6600

***** Section 2 - Hazards Identification *****

GHS Classification:

- Flammable Liquids - Category 3
- Skin Corrosion/Irritation - Category 2
- Carcinogenicity - Category 2
- Germ Cell Mutagenicity - Category 1
- Specific Target Organ Toxicity (Single Exposure) - Category 3 (narcosis)
- Aspiration Hazard - Category 1
- Hazardous to the Aquatic Environment (Acute Hazard) - Category 3

GHS LABEL ELEMENTS

Symbol(s)



Signal Word

Danger

Hazard Statements

- Flammable liquid and vapor.
- Causes skin irritation.
- Suspected of causing cancer.
- May cause genetic defects.
- May cause drowsiness or dizziness.
- May be fatal if swallowed and enters airways.
- Harmful to aquatic life.

Precautionary Statements

Prevention

- Keep away from heat/sparks/open flames/hot surfaces. No smoking
- Keep container tightly closed.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting/equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Wash thoroughly after handling.

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Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves/protective clothing/eye protection/face protection.

Response

In case of fire: Use water spray, fog or foam to extinguish.

IF ON SKIN (or hair): Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

IF SWALLOWED: Immediately call a poison center/doctor. Do NOT induce vomiting.

IF exposed or concerned: Get medical advice/attention.

Storage

Store in a well-ventilated place. Keep cool.

Keep container tightly closed.

Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 3 - Composition / Information on Ingredients ***

CAS #	Component	Percent
68476-34-6	Fuels, diesel, no. 2	0-100
8008-20-6	Kerosene	0-100

*** Section 4 - First Aid Measures ***

First Aid: Eyes

Remove contact lenses. Rinse thoroughly with plenty of water for at least 15 minutes. 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.

First Aid: 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.

First Aid: 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.

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First Aid: Inhalation

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.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.

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.

Hazardous Combustion Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

Extinguishing Media

Carbon dioxide (CO₂), Water spray, Dry chemical, Foam, Keep containers and surroundings cool with water spray.

Unsuitable Extinguishing Media

None

Fire Fighting Equipment/Instructions

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.

Fire Hazard: Do not use a solid water stream as it may scatter and spread fire. Water spray may be useful if minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water spray, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

Tanks, cars, or trailer fires: 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 possible, withdraw from area and let fire burn.

Special protective equipment: 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.

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.

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*** Section 6 - Accidental Release Measures ***

Recovery and Neutralization

Carefully contain and stop the source of the spill, if safe to do so.

Materials and Methods for Clean-Up

Take up with sand or other 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.

Emergency Measures

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 confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

Personal Precautions and Protective Equipment

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

Environmental Precautions

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.

Prevention of Secondary Hazards

None

*** Section 7 - Handling and Storage ***

Handling Procedures

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 AP 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.

Advice on protection against fire and explosion: 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-irritated 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 as gasoline or naphtha).

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(3) Storage tank level floats must be effectively bonded.

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

Storage Procedures

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. 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."

Post in the area "No Smoking or Open flame".

Incompatibilities

Keep away from strong oxidizers. Peroxides.

*** Section 8 - Exposure Controls / Personal Protection ***
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Component Exposure Limits

Fuels, diesel, no. 2 (68476-34-6)

ACGIH: 100 mg/m³ TWA (inhalable fraction and vapor, as total hydrocarbons, listed under Diesel fuel)
Skin - potential significant contribution to overall exposure by the cutaneous route (listed under Diesel fuel)

Kerosene (8008-20-6)

ACGIH: 200 mg/m³ TWA (application restricted to conditions in which there are negligible aerosol exposures, total hydrocarbon vapor)
Skin - potential significant contribution to overall exposure by the cutaneous route
NIOSH: 100 mg/m³ TWA

Engineering Measures

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

Personal Protective Equipment: Respiratory

A NIOSH approved air-purifying respirator with organic vapor cartridges or canister should be used whenever airborne concentrations exceed or may be expected to exceed, exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

Personal Protective Equipment: Hands

Gloves constructed of nitrile, neoprene, or PVC are recommended.

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Personal Protective Equipment: Eyes

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.

Personal Protective Equipment: Skin and Body

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.

*** Section 9 - Physical & Chemical Properties ***

Appearance:	Colorless to yellowish, oily	Odor:	Diesel
Physical State:	Liquid	pH:	Not Applicable
Vapor Pressure:	< 5 mm Hg @ 20 °C	Vapor Density (Air=1):	5.8
Boiling Point:	347-617 °F	Melting Point:	-80 °F
Solubility (H2O):	Insoluble	Specific Gravity:	0.80-0.83
Evaporation Rate:	0.04	VOC:	ND
Percent Volatile:	100%	Octanol/H2O Coeff.:	ND
Flash Point:	>100°F	Flash Point Method:	ASTM 93
Upper Flammability Limit (UFL):	5	Lower Flammability Limit (LFL):	0.7
Burning Rate:	ND	Auto Ignition:	ND

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

Incompatible Products

Keep away from strong oxidizers.

Hazardous Decomposition Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).

*** Section 11 - Toxicological Information ***

Acute Toxicity

A: General Product Information

May cause skin or eye irritation.

B: Component Analysis - LD50/LC50

Kerosene (8008-20-6)

Inhalation LC50 Rat >5.28 mg/L 4 h; Oral LD50 Rat >5000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

May cause skin irritation with prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

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Potential Health Effects: Eye Critical Damage/ Stimulativeness

Contact with eyes may cause mild irritation.

Potential Health Effects: Ingestion

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.

Potential Health Effects: Inhalation

May cause headache, nausea, rapid respirations, vomiting, dizziness, confusion, impaired judgment, 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.

Respiratory Organs Sensitization/Skin Sensitization

This product is not reported to have any skin sensitization effects.

Generative Cell Mutagenicity

This material has been positive in a mutagenicity study.

Carcinogenicity

A: General Product Information

Suspected of causing cancer.

B: Component Carcinogenicity

Fuels, diesel, no. 2 (68476-34-6)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans (listed under Diesel fuel)

Kerosene (8008-20-6)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

Reproductive Toxicity

This product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure

May cause respiratory irritation. May cause drowsiness or dizziness.

Specified Target Organ General Toxicity: Repeated Exposure

This product is not reported to have any specific target organ exposure effects.

Aspiration Respiratory Organs Hazard

The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

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

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Fuels, diesel, no. 2 (68476-34-6)

Test & Species

Conditions

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96 Hr LC50 Pimephales promelas 35 mg/L [flow-through]

Persistence/Degradability

No information available.

Bioaccumulation

No information available.

Mobility in Soil

No information available.

*** Section 13 - Disposal Considerations ***

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

*** Section 14 - Transportation Information ***

DOT Information

Shipping Name: Diesel Fuel

UN #: 1202 Hazard Class: 3 Packing Group: III

*** Section 15 - Regulatory Information ***

Regulatory Information

US Federal Regulations

Component Analysis

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Fuels, diesel, no. 2	68476-34-6	No	No	No	Yes	No	No
Kerosene	8008-20-6	No	Yes	No	Yes	Yes	No

Component Analysis - WHMIS IDL

No components are listed in the WHMIS IDL.

Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Fuels, diesel, no. 2	68476-34-6	Yes	DSL	EINECS
Kerosene	8008-20-6	Yes	DSL	EINECS

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* * * Section 16 - Other Information * * *
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Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Literature References

None

End of Sheet