

# MATERIAL SAFETY DATA SHEET

## DIESEL OIL (MULTIPLE TYPE)

CAS number: 68334-30-5

UN number: 1993



### I. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** Diesel fuel oil.

**Trade name:** Diesel oil DO (DO 0,001S - V; DO 0,05S - II).

**Synonyms** (not scientific name): Gasoil.

**Supplier's name, address**  
VIETNAM NATIONAL PETROLEUM GROUP  
PETROLIMEX  
N°1-Kham Thien Str.-Dong Da Dist.-Hanoi

**Contact, Routine inquiries**  
Vietnam National Petroleum Group  
N°1-Kham Thien Str.- Dong Da Dist.-Hanoi  
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**Manufacturer's name and address:**

**Intended use:** Fuel for diesel engines.

### II. HAZARDS IDENTIFICATION

**1. Hazard classification:** NFPA Flammable liquids: 3.

**2. Warning statement:**

- The diesel oil is a highly flammable product when exposed to fire source at normal temperature.
- Concerning human's health, the diesel oil may cause irritation and inhibition to the nervous system. The diesel oil's vapor may cause irritation to the respiratory system.
- In case of spillage, the diesel oil may cause pollution to the environment, the water source and the soil.
- **Precaution when getting in contact with, storing, using:** The diesel oil is a highly flammable, combustible material at normal temperature, stored in liquid form in specialized container, needs to be kept away from heat source and children's reach. Use suitable protection equipment when getting in contact with the diesel oil. Electrostatic may happen when transporting the diesel oil, therefore electrostatic magnet system or grounding system must be used before loading/unloading to/from the transportation vehicles.

**3. Health effects:**

**Eyes:** May cause irritation and damage to the eye.

**Inhalation:** May cause irritate and inhibit the nervous system. The diesel oil's vapor may irritate the respiratory system.

**Skin:** Repeated and prolonged contact may cause skin's irritation and allergy.

**Ingestion:** Toxic to the digestive system, might spill to lung causing nausea, pneumonia.

### III. COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS Number	Chemical Structure	Concentration (% weight)
1. Diesel oil	68334-30-5		100
2. Sulphur rate, max			2 level: 0,001 - 0,05

### IV. FIRST AID MEASURES

#### 1. Eyes contact:

Take the victim to a safe, well-ventilated space with fresh air. Use clean water to rinse eyes for at least 15 minutes, then get immediate medical attention.

#### 2. Skin contact:

Remove contaminated clothes and shoes. Use water and soap to wash the part of skin exposed to the diesel oil. In case of allergic or if the skin is seriously damaged, get immediate medical attention.

#### 3. Inhalation:

Take the victim to a safe, well-ventilated space with fresh air. In case of difficulty breathing, CPR, respiratory aids measures must be applied. Get immediate medical attention.

#### 4. Ingestion:

Avoid eating and drinking. Do not induce vomiting because it might lead to serious lung injuries and complications. Get immediate medical attention.

### V. FIRE FIGHTING MEASURES

#### 1. Flammable classification:

The diesel oil is a highly flammable product. Its flash point > 55°C.

**2. Hazardous combustion products:** The diesel oil upon combusted will produce: CO<sub>x</sub>, SO<sub>x</sub>, NO<sub>x</sub>, Hydrocarbon.

**3. Causes of fire:** Fire sparks, electrostatic, high temperature, collision, friction spark.

**4. Suitable fire extinguishing agents and guidance of fire fighting methods, others measures:**

- **Fire extinguishing agents:** Use fire extinguisher and specialized fire fighting equipment (ABC or BC type), CO<sub>2</sub>, sand, fire blanket; use water spray to cool down the fire-exposed surfaces of surroundings containers and equipment.

- **Fire fighting methods:** Take initial emergency response to isolate, extinguish the fire.

- + Cut off the power source related to the fire.
- + Prioritize in rescuing victims, preventing and isolating the diesel oil's source of leakage, if possible remove others nearby containers and equipment.
- + Use fire extinguisher, sand, fire blanket to extinguish the small fire.
- + Do not use water to extinguish, only use water spray to cool down the fire-exposed surfaces of surroundings containers and equipment.
- + Call and inform the Fire service to ask for assistance.

**5. Required equipment, protection gears in case of fire:**

- **Fire fighting equipment:** Fixed fire fighting equipment, fire truck, dry powder wheeled fire extinguisher  $\geq 25\text{kg}$ , CO<sub>2</sub> extinguisher, powder extinguisher 6-10kg, sand, buckets, fire blanket, etc.
- **Protection equipment:** Flame resistant clothing, protection helmet with eye protection, gloves, boots, etc.

**6. Special attention notice:**

The diesel oil's vapor is highly flammable, heavier than air and can move far away from the leaked source. If encountered with a fire source may cause fire outbreak to the leaked source.

## VI. ACCIDENTAL RELEASE MEASURES

**1. Small spill:**

- Looking for a way to contain the source of spillage, leakage. Evacuate the incident zone.
- Isolate the area affected by the spill, leak. Assign supervision and warn others about said area.
- Forbid any fire source, fire spark in case of spill, leak.
- Prevent the diesel oil from leaking into the drainage system.
- Use sand, rag, oil sorbents to clean up the affected area as quickly as possible, then collect into specialized container for proper disposal.

**2. Large spill:**

- Looking for a way to cut off power source, cease all operation of transferring diesel oil.
- Isolate the area affected by the spill, leak. Prepare the fire prevention and fire fighting plan, methods.
- Utilize protection plan for the incident zone, prevent the diesel oil from spreading and deploy recovery measures accordingly to the oil spill response plan of the company.
- Inform the authorities for assistance of oil spill response.

## VII. HANDLING AND STORAGE

**1. Handling:**

- Open the container slowly to release the internal pressure.
- To avoid fire or explosion, dissipate electrostatic during transfer by grounding the containers and equipment before transferring the product.

- During transferring the diesel oil to/from transportation vehicles, it is strictly forbidden to: start the vehicle's engine, check the power source, maintain and clean the vehicle.
- Forbidden of fire, smoke, usage of portable electrical, communication devices that are not explosion proof in hazardous areas.
- Prevent the spill, leak, drop of the diesel oil.
- Do not ingest the diesel oil.
- Use protection equipment when getting into contact with the diesel oil. Wash hands and clean up after contact.

**2. Storage:**

- Store diesel oil in specialized equipment, keep the containers closed. Store in cool, well-ventilated area.
- Prevent the containers from strong impact, separate from heat source, fire spark and strong oxidants.
- Install the automatic fire alarm system.
- Comply with the Government's requirements on fire protection and fire fighting, environment protection, oil spill prevention when operating petroleum facilities.
- Fire fighting equipment must be fully equipped following the Government's requirements when handling, transferring, storing the diesel oil.

**VIII. EXPOSURE CONTROL AND PERSONAL PROTECTION**

**1. Control parameter:**

Components	CAS number	Type of exposure	Parameter of control	Standard
Diesel oil	68334-30-5	Respiration	100 mg/m <sup>3</sup>	ACGIH

**2. Exposure control:**

- Ensure natural ventilation or use explosion-proof equipment to keep the storage zone, loading and unloading station well-ventilated.
- Install anti-lightning, anti-static equipment, explosion-proof electrical system at the storage, operation, transportation zone following the Government's requirements.

**3. Personal protection for working:**

- Eye protection: Specialized protection equipment is not required. Goggles are recommended in necessity case.
- Body protection: Use protective clothing.
- Skin protection: Use protective gloves.

**4. Personal protection for responding incident:**

- The oil spill response team, fire fighting team must be equipped with specialized tool and equipment when approaching and handling the incident.

**5. Sanitation measures:**

- Wash hands with soap and clean up after getting into contact with the diesel oil.

## IX. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Liquid	<b>Boiling point (°C):</b> 163-390°C
<b>Colour:</b> Pure, clear, light yellow	<b>Melting point (°C):</b> Not available
<b>Odour:</b> Characteristic odour of Diesel	<b>Flash point (°C):</b> >55°C
<b>Volatilization speed:</b> Not available	<b>Freezing point (°C):</b> -40 -6°C
<b>Dynamic viscosity at 40°C (cst):</b> 2-4,5	<b>Upper flammable limit</b> (% Substance with air): Not available
<b>Solubility rate in water:</b> Not available	<b>Lower flammable limit</b> (% Substance with air): Not available
<b>pH:</b> Not available	<b>Evaporation rate (kg/l):</b> 0,70
<b>Mass density (kg/m<sup>3</sup>) at 15°C:</b> Report	<b>Other properties:</b> Standard 03:2015/PLX

## X. STABILITY AND REACTIVITY

### 1. Stability:

- Is stable under normal conditions and stored at normal temperature and pressure.
- Avoid any heat source, open flames, high energy ignition source, electrostatic and strong oxidants.

### 2. Reactivity:

- Do not generate polymerization.
- Products of combustion: CO<sub>x</sub>, SO<sub>x</sub>, Hydrocarbon, etc.

## XI. TOXICOLOGICAL INFORMATION

- Acute poisoning via ingestion: LD50 (mice): 7,600 mg/kg.
- Acute poisoning via inhalation: LC50 (mice) ≥ 4,1 mg/l.
- Acute poisoning via skin: LD50 (rabbit) > 4,222 mg/kg.
- Cancer's properties: Have a possibility to causes cancer to human.
- Chronic poisoning: Stimulates and inhibits the nervous system. May causes damages to thymus, liver, bone marrow.

## XII. ECOLOGICAL INFORMATION

- Toxicity to aquatic ecosystem: Prolonged influence to aquatic animal.
- Rottenness by bacteria: Natural biodegradable.

## XIII. DISPOSAL INFORMATION

- Do not put into pond, lake, drainage and sewage system.
- The disposal process must follow the procedure and general standard about chemical's disposal specified in the Law on Environment protection, assuring the safety for human and

environment.

#### XIV. TRANSPORT INFORMATION

- UN number: 1993.
- Decree N°104/2009/NĐ-CP dated 09/11/2009 of the Government providing the list of dangerous goods and the transport of dangerous goods by road motor vehicles.
- Decree N°29/2005/NĐ-CP dated 10/03/2005 of the Government providing the list of dangerous goods and the transport of dangerous goods by inland waterway.
- DOT (Department of Transportation)
  - Proper Shipping Name: Diesel Fuel
  - Combustible Class: Yes
  - Hazard Class: 3
  - NA/UN Number: NA1993
  - Packing Group: III
  - Reportable Quantity (RQ) Under CERCLA: None
  - Placards: Flammable Liquid
  - Label: No
- IMDG Code: Dangerous Goods Code for transport by sea
  - UN Number: 1993
  - Class: 3 Flammable Liquid
  - Stowage and Segregation Category: A

#### XV. REGULATORY INFORMATION

##### **1. Declaration and registration's status worldwide:**

- United nations, EC, International organizations of production, trade, products and oil's transportation from USA, UK, New Zealand, etc. have legal regulation on MSDS's declaration.

##### **2. Classification of dangers according to declared, registered nation:**

- EPA SARA 311/312 Title III Hazard Categories (Superfund Amendments And Reauthorization Act.)
- SARA 313 and 40 CFR 372.
- EU Dangerous substances: Category 3 carcinogen, R40, R65, R66, R51/53, S2, S36/37, S61, S62.

#### XVI. OTHER INFORMATION

**Date of compilation:** 1<sup>st</sup> April 2020.

**Name of organization, individual responsible for drafting:**

VIETNAM NATIONAL PETROLEUM GROUP (PETROLIMEX)

**DISCLAIMER FOR USER:**

- The information and recommendations in this Material Data Safety Sheet are, to the best knowledge and belief, accurate and reliable as of the date issued, and must be used to apply methods preventing risk, accident.

- Dangerous chemical presented in this sheet might have others dangerous properties under the control of the user.

- **Petrolimex shall not be held responsible for any damage resulting from abnormal use of the recommendations presented in this Material Data Safety Sheet.**